

THE BRAMBLEY COLLECTION OF MAORI ARTEFACTS, AUCKLAND MUSEUM

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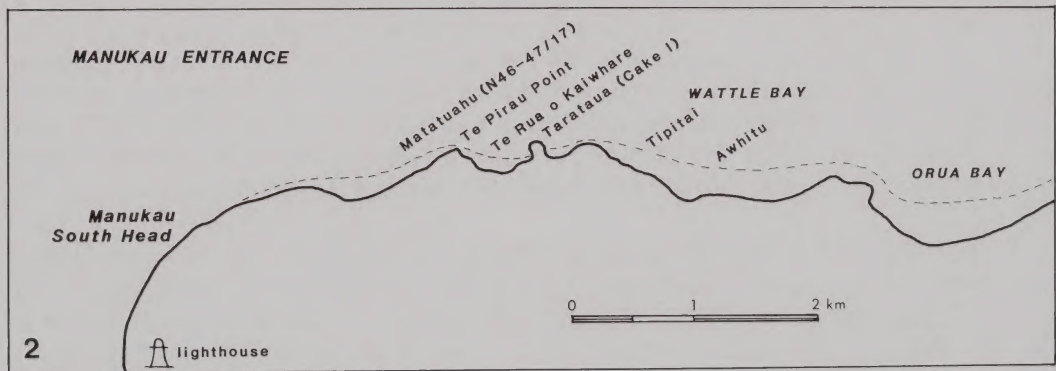
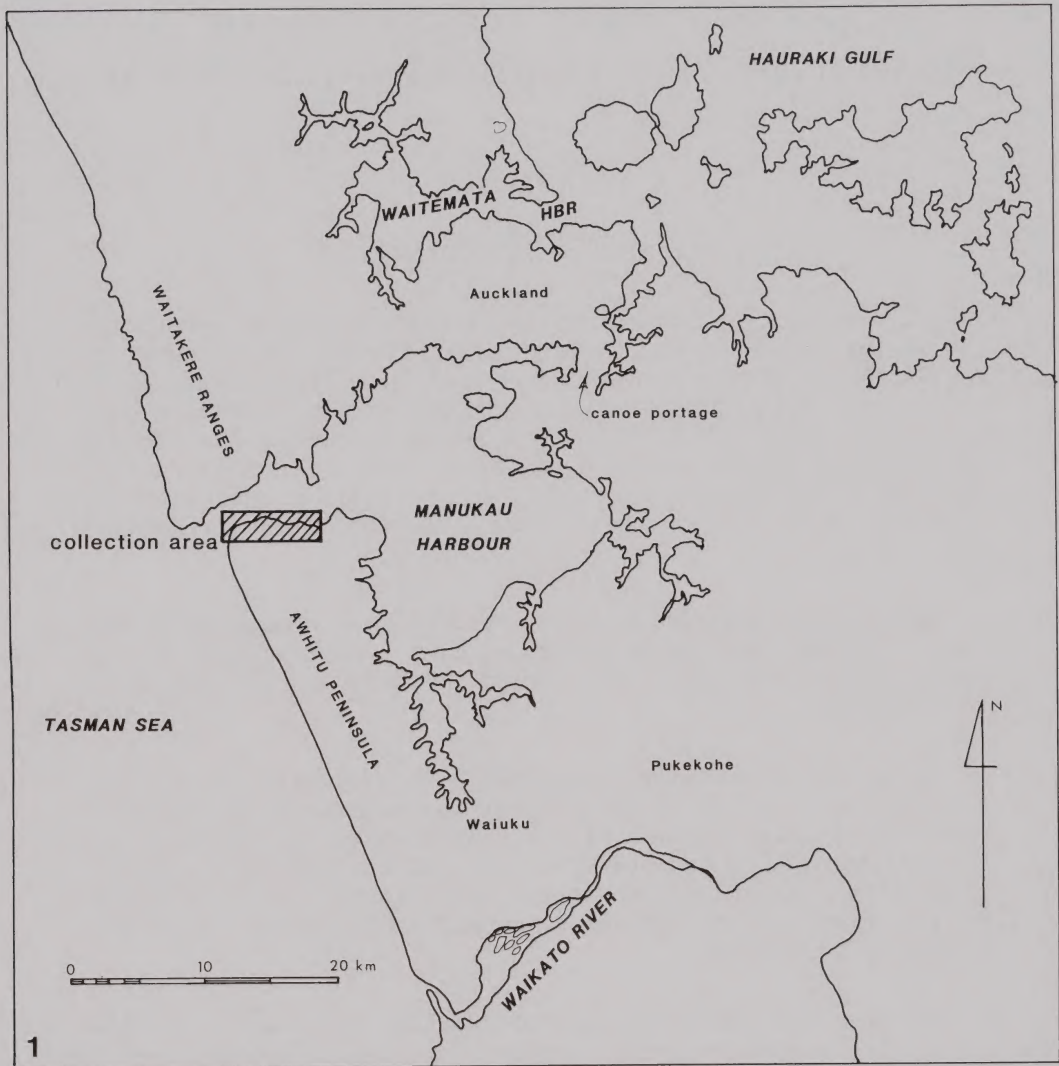
Abstract. The Brambley Collection of Maori artefacts from the Manukau South Head district includes the most important early, or 'archaic', assemblage of the Auckland region. Material recovered from N46-47/17, the Matatuahu site, on the southern shore of the entrance to Manukau Harbour, is most notable for its wide range of early adzes. The assemblage also has one-piece fishhooks of early form, a rare twin-lobed pendant rendered in Nelson serpentine, a harpoon point, files, drillpoints, *hoanga* (grinding stones) and a variety of flake tools and fragmentary stone material. Moa bone is probably industrial raw material and not evidence of moa hunting.

More adzes of early style are included in material in the collection which is not located to the Matatuahu site. Other items in this part of the collection are adzes of sub-rectangular (late) form, fishing sinkers, hammerstones and artefacts of European origin.

A thirteenth century date is suggested for the N46-47/17 site, when the immediate environment was probably very different and much more favourable to settlement than today. The site itself has suffered severely from sea erosion which has also carried away extensive areas of nearby sand flats, in all likelihood highly suited to Maori food cropping. Matatuahu is one of a number of sites which point to a reappraisal being required of the importance of early settlement on the west coast of the North Island.

In 1981 Mrs Mavis Brambley, now of Pukekohe, presented to the Auckland Museum a collection of Maori artefacts made over more than three decades by herself, her late husband and the Brambley family at Manukau South Head. The collection almost all comes from the Brambley farm 'Tipitai' (no longer in the family) and from the beach or foreshore from Wattle Bay *ca.* 4 km west to Manukau South Head (Figs.1,2). It includes characteristically 'archaic' material, late ('classic' Maori) material and artefacts of European origin. Where it can be clearly assigned, most of the early material comes from the so-called 'Manukau South Head' site (N46-47/17) west of Te Pirau Point, while the greater part of the late ('classic' Maori) and historic material comes from the shore about Wattle Bay and the Tipitai homestead.

The N46-47/17 material comprises the most important and comprehensive assemblage of archaic artefacts of any historic site in the greater Auckland region. In archaeological literature the site is commonly referred to as 'Manukau South Head' or 'Wattle Bay' (e.g. Davidson 1984:248). It is in fact 2 km west of Wattle Bay; nor is



Figs. 1,2. 1. Location of Brambley Collection area. 2. Provenance localities within the Brambley Collection area.

'Manukau South Head' a particularly appropriate name, applying more accurately either to the point of land which lies at the actual entrance to the harbour (2 km west of N46-47/17), or more generally to the district at the north end of Awhitu Peninsula.

It is proposed here that N46-47/17 be known as 'Matatuahu', which is the earliest documented name of the prominent headland at the east end of the site. This headland is named 'Jones Head' or 'Te Pirau Point' on the latest NZMS260 map. The Brambley family always knew it as 'Moses Rock'. The name 'Matatuahu' comes from the earliest detailed map of the district, which resulted from a February 1864 survey by S. Percy Smith (1865). Smith acknowledges the assistance of Rapata Kaihau and Kerei Ahipene in pointing out the boundaries of the various blocks of land. The same men are likely to be responsible for the many place names given on the map, including Matatuahu. Coulthard (1963) gives the name as 'Mata-a-tuhua' and ascribes the name to the "moa hunters camp site". 'Matatuahu', however, appears to have priority and probably the authority of Kaihau and Ahipene as well.

THE COLLECTION

The Brambley Collection mostly results from surface finds on the Tipitai farm and along the foreshore and inter-tidal area between Wattle Bay and South Head. In addition, material was recovered during excavations at the Matatuahu site in 1960 (see below).

The collection is strong in stone material. The relative lack of bone items reflects the common method of collection which was to patrol the beach after storms or exceptionally high tides. The erosion which brought stone items to light destroyed or swept away lighter bone material, this being especially so at the exposed Matatuahu site. Bone material in the collection results from the 1960 excavations at the site. The same applies to much of the less distinguished stone material. Mrs Brambley stated to the writer in 1982 that stone flakes including obsidian, chert and other material were found by excavation, "... otherwise they would not have been kept".

There are several separate groups of material within the Brambley Collection. As early as 1938 Mr Bill Brambley deposited 26 sinkers, three adzes, three grinding stones and a broken pounder, all localised to 'Wattle Bay', in the Auckland Museum (Ethnology Department catalogue numbers 23901-23904). In 1955 a further three items were deposited (34318-34320), all of which were subsequently uplifted by Mr Brambley in 1963 but which came in with the major part of the collection in 1981. In 1974 Mrs Brambley presented a limited quantity of material, mostly bone, with some stone flakes and other small artefacts, to the museum. This was originally catalogued into the Ethnology collection, but has now been transferred to the Archaeology Department in order to bring most of the Brambley material together (catalogue numbers AR7353-7400). The main Brambley collection came into the museum in 1981 (AR6883-7352, AR7401-7405 and AR7410). The 1938 deposit remains in the Ethnology Department.

In January and February 1960 excavation was carried out at the Matatuahu site by the Brambleys with the assistance of Mr R.G.W. Jolly of Papakura (see Brambley

1966:115-118). Some important artefacts which resulted were retained in the Brambley Collection; less spectacular material was passed on at the time to the University of Auckland Anthropology Department by Mr Jolly. All material held in the university collection was transferred to the Auckland Museum in July 1982, where it received a single catalogue number (AR7417) having already had detailed cataloguing in the university collection. The January-February 1960 excavation material is catalogued under university collection numbers AU265-293, AU313-321, AU346-365, AU390-406, AU409-413 and AU454.

When Mr Jolly drew the attention of the University of Auckland Archaeological Society to the importance of the Matatuahu site, an excavation was carried out by the society over one weekend in November 1960. An important chisel (AR6905; see Fig.9), found during this work, was retained in the Brambley Collection. All other material was held in the university collection until July 1982 when it too was transferred to the Archaeology Department of the Auckland Museum (AR7417; university catalogue numbers AU1403-1417, AU1422-1428). A further small collection from N46-47/17, now in the museum, is marked "Wattle Bay 28/11/65 Trower and Jolly" (AR7445), and results from work done at the site in 1965 by Messrs R.G.W. Jolly and David Trower.

There have been several episodes of cataloguing and recording the Brambley Collection, the most important of which resulted in a typescript catalogue prepared by R.G.W. Jolly and R.G. Law in 1977-78. In the early 1960s W. Ambrose and J. Golson prepared a catalogue of 62 items in the collection, with notes on provenance in each case. This catalogue is reproduced in the Jolly and Law manuscript. The Ambrose and Golson catalogue relied upon numbered stickers attached to catalogued items. These have since come off the artefacts, but a few survived when the Jolly and Law catalogue was prepared to allow some cross referencing. Thus some, but not all, of the provenance information in the Ambrose and Golson catalogue is still useful.

In 1972 D.R. Simmons examined the collection and wrote brief locational information in pencil directly on many items according to information from Mr Brambley. Most importantly, Jolly and Law catalogued 412 items from the collection in 1977-78, giving each a unique number (BR1-BR412) which was written on the artefact in black ink. These numbers are now duplicated by the museum 'AR' (Archaeology Department) catalogue numbers which are used in the present report.

Information on the provenance of material in the collection thus comes from four sources: the Ambrose and Golson data where the stickers survived until 1977-78, plus those few additional items which can be identified from their catalogue descriptions; Simmons' 1972 pencil notes on the artefacts themselves; the Jolly and Law catalogue listing which locates 10-12 further items; and Mrs Brambley's recollection to the present writer in 1982.

In the following description of the Brambley Collection, material assigned to the Matatuahu site is treated first, followed by material recovered from elsewhere in the Wattle Bay/Tipitai/Manukau South Head district. The rare items from elsewhere in New Zealand are dealt with briefly in Appendix 1.

THE MATATUAHU SITE (N46-47/17)

ADZES AND CHISELS

More than thirty adzes, chisels and substantial pieces thereof are located to the Matatuahu site. The assemblage is unparalleled in the Auckland region and possibly the North Island for its archaic character. It includes chisels, 'hogback' (Duff Type 4A) adzes, adzes of rectangular and triangular cross-section, side-hafted adzes, 'Samoaan' Duff Type 2C adzes and an adze of lenticular cross-section. More archaic material in the Brambley Collection is not located to the Matatuahu site but comes from the nearby Tipitai farm and foreshore. It is thus treated here among material from other than the Matatuahu site, although it cannot be ignored in assessing the archaic character of the collection as a whole or the Tipitai/South Head locality.

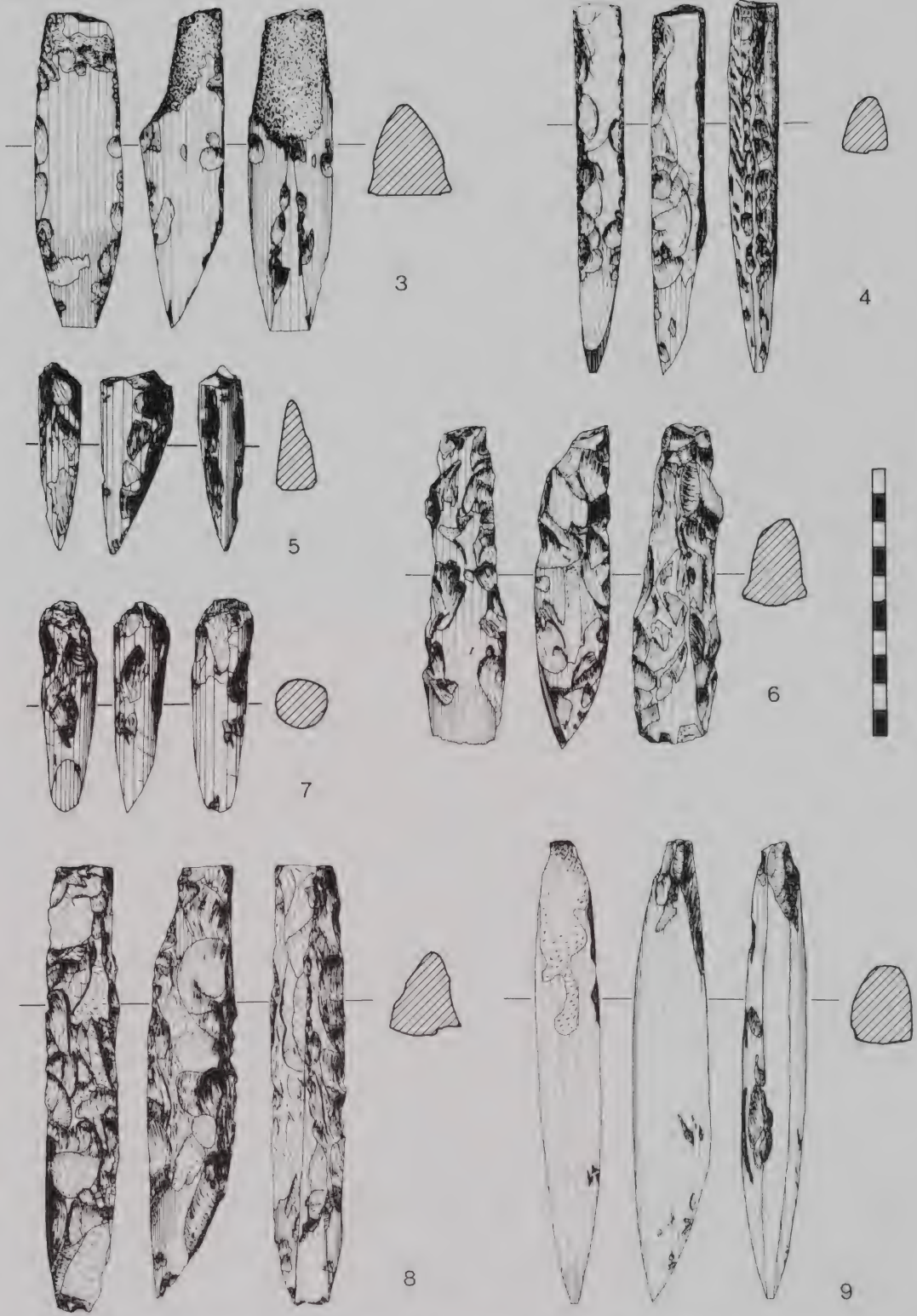
Chisels

A group of chisels of early form include some of the outstanding items of the collection. Six of the items come from the Brambley excavation area of early 1960, another was found during the University excavation of November the same year. Four chisels, made of black metasomatised argillite from the Mt Ears source, D'Urville Island, are important among the few pieces in the collection made of this supreme adze making material.

AR6902 (Fig.3) was found during the Brambley excavation of early 1960 by Messrs Brambley and Jolly (see Brambley 1966:117-118). It was in direct association with a *Dinornis novaezealandiae* tibiotarsus (AR7272), a small Type 1A adze (AR6897, Fig.16), and a reworked broken adze of Tahanga basalt (AR6899, Fig.15). It is a small Type 4A 'hogback', superbly rendered, with a high degree of polish except for the marked reduction at the lashing end which is finely hammer-dressed. There is some edge damage to the blade. All angles are sharply and accurately finished. It measures 118 mm long with a 12 mm wide blade.

Another chisel of outstanding craftsmanship from the area of the Brambley excavation is AR6907 (Fig.4). It was found by Mrs Brambley in association with a small gabbro pebble (AR7027). AR6907 is a narrow chisel with a slight lateral curve, finely flaked with some hammer-dressing at the margins. Polish extends down both sides and along the narrow front. On the back the bevel only is polished. The chisel is 136 mm long, but may be incomplete. The fine blade is 3 mm wide.

Again of Mt Ears argillite and from the Brambley excavation area is a remarkable gouge of which only the working end remains (AR6949, Fig.5). Of narrow 'hogback' form, apparently similar to AR6907 and AR6905, this item is unusual in that the 'front' rises to a narrow ridge which continues to a point, rather than to a blade however narrow. Like the complete items of this material, AR6949 displays skilled workmanship in its manufacture and a high degree of polish over flake scars. The surviving fragment is 70 mm long and 17 mm at its widest. A 26 mm depth suggests an overall length of approximately 170 mm (c.f. AR6905, Fig.9).



Figs. 3-9. Chisels, Matatuahu site. 3. AR6902. 4. AR6907. 5. AR6949. 6. AR6928. 7. AR6937. 8. AR6910. 9. AR6905.

The fourth item made of the same material again comes from the 1960 Brambley excavation area. AR6928 (Fig.6) is a triangular cross-sectioned chisel. It is well flaked, with a high degree of polish in places and rough polish elsewhere, suggestive of reworking from a larger item. The length is 117 mm, and blade width, 22 mm.

An important and unusual chisel is illustrated in Fig.7. AR6937 was found by R.G.W. Jolly, also in the Brambley excavation area. It is made of the highly characteristic veined metasomatised argillite from Ohana at the south end of D'Urville Island. It falls into Duff's (1956:184, 190-192) Type 6, of round-sectioned chisels or gouges. Skinner (1974:110-111) locates this type to the South Island, while Duff notes Chatham Islands examples; both remark on formal parallels with later nephrite (jade) carving chisels. The Matatuahu example is 78 mm long with a strongly curved blade *ca.* 7 mm wide. Beneath the polish rough flake scars and hammer-dressing illustrate the difficulty of reducing the material to a round cross-section.

The raw material of AR6910 (Fig.8) comes from the beaches and rivers of the west side of the inner Hauraki Gulf and belongs among the Waiheke Group greywackes (Schofield 1967). The superbly crafted 'hogback' chisel is made of fine-grained green Waiheke Group greywacke: skilful flaking shows the high degree of control that was possible with the material. Minimal polishing is concentrated at the blade end. The blade itself is damaged so that the length of the chisel was marginally longer than the present 164 mm. The blade width would have been little different from the present 11 mm.

The chisel AR6905 (Fig.9) was found during the university excavation of November 1960 in association with bone, possibly moa bone. It is made of a dark basalt from the Tahanga source, Opito Bay, Coromandel Peninsula. It is almost completely polished except where flake scars show. The length is 170 mm and blade width, 2.5 mm.

Side-hafted adzes

Three side-hafted adzes are important indicators of the antiquity of the Matatuahu site — this form being early in the New Zealand sequence as Moore *et al* (1979) have shown. Mrs Brambley recalls that she found AR6918 (Fig.12) in a beach pool below the waterfall at the east end of the site "... almost directly below the [lobed] pendant."

Two of the three side-hafted adzes are made from identical fine-grained green Waiheke Group greywacke, to very closely similar forms. The larger adze is 253 mm long with a blade 93 mm wide (AR6941, Fig.10); the smaller is 181 mm long with a blade 86 mm wide (AR6922, Fig.11). Both adzes lack any polish and are roughed out only, with a small amount of hammer-dressing. The third adze (AR6918; Fig.12) is of light grey basalt from the Tahanga quarry at Opito, Coromandel Peninsula. It is 201 mm long with a comparatively narrow (74 mm) blade. This adze has more hammer-dressing than the others and has a well polished blade.

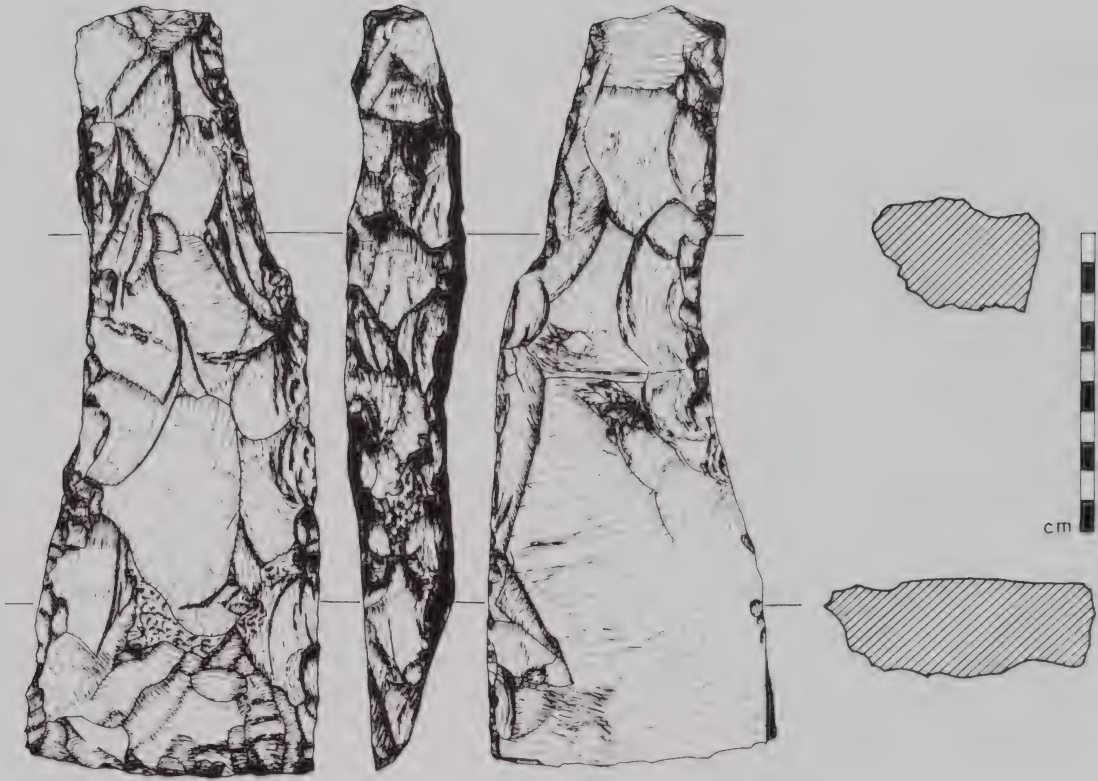


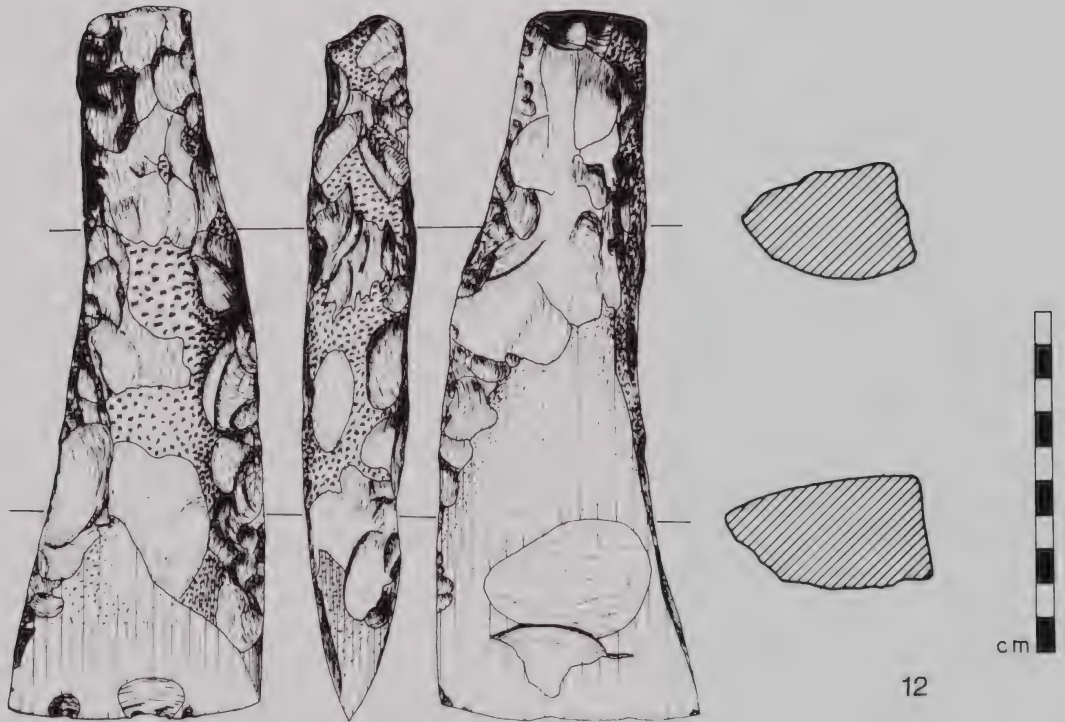
Fig. 10. Side-hafted adze, Matatuahu site. AR6941.

Rectangular adzes of early form

Several items in the Brambley Collection represent the characteristic early adze of rectangular cross-section. Among them is one example of the Type 1A, “. . . the broad-bladed adze quadrangular in section, and with a marked ‘tang’ or ‘grip’”, which Duff (1956:146) describes as, “. . . probably the most distinctive adze type ever evolved by the Polynesians.” Where it can be determined the other adzes of quadrangular form are without tang.

The quadrangular adze without tang — the Duff (1956:161-170) Type 2A — is represented by AR6944 (Fig.13). The origin of this adze is not entirely certain: the Ambrose and Golson catalogue states that it was found on the foreshore in front of the Brambley site, which has confirmation from Simmons’ pencil note on the adze itself (“Below B Dig 1”). Mrs Brambley, however, recalls that the adze was found west of the site on the shore beneath the lighthouse. The item measures 267 mm in length and 77 mm across the now damaged blade. It is made of Tahanga basalt. There is minimal polishing of the blade and high points on the sides. Haft rubbing is highly visible on the front and back and use-wear can be seen on the blade.

Two smaller adzes of strongly rectangular cross-section are also located to the Matatuahu site, in both cases to the Brambley excavation area. AR6901 (Fig.14) is



Figs. 11,12. Side-hafted adzes, Matatuahu site. 11. AR6922. 12. AR6918.

made from a fine-grained green sandstone. Overall polish does not obscure heavy flaking scars. The length is 115 mm and blade width 48 mm. AR6899 (Fig.15) was found with AR6897 and AR6902 beneath the *Dinornis novaezealandiae* tibiotarsus (AR7272). In this case a fragment from a larger adze is being reworked, which retains on the front the highly polished surface of the original item, the remainder being accurately flaked. The material is pale grey Tahanga basalt. The adze measures 119 mm in length and 43 mm across the blade.

Fig.16 shows the only Type 1A adze in the collection. AR6897 was also found during the Brambley excavation of early 1960 in direct association with the *Dinornis novaezealandiae* tibiotarsus, the adze AR6899 (Fig. 15) and the chisel AR6902 (Fig.3). AR6897 is 133 mm long, with a blade 52 mm wide. It is made of black basalt from the Tahanga source (Simon Best, pers. comm), representing the black end of the pale grey to black Tahanga range. It is well finished by polishing and hammer-dressing; haft polish is present over hammer-dressing at the back.

Two fragments complete the material of rectangular cross-section from the Matatuahu site. A well finished blade portion of dark grey Tahanga basalt (AR6929) indicates an adze as large or larger than AR6944 — perhaps 300 mm in length. Half of a well finished adze in Tahanga basalt has a blade width of 63 mm (AR6914).

Triangular cross-sectioned adzes

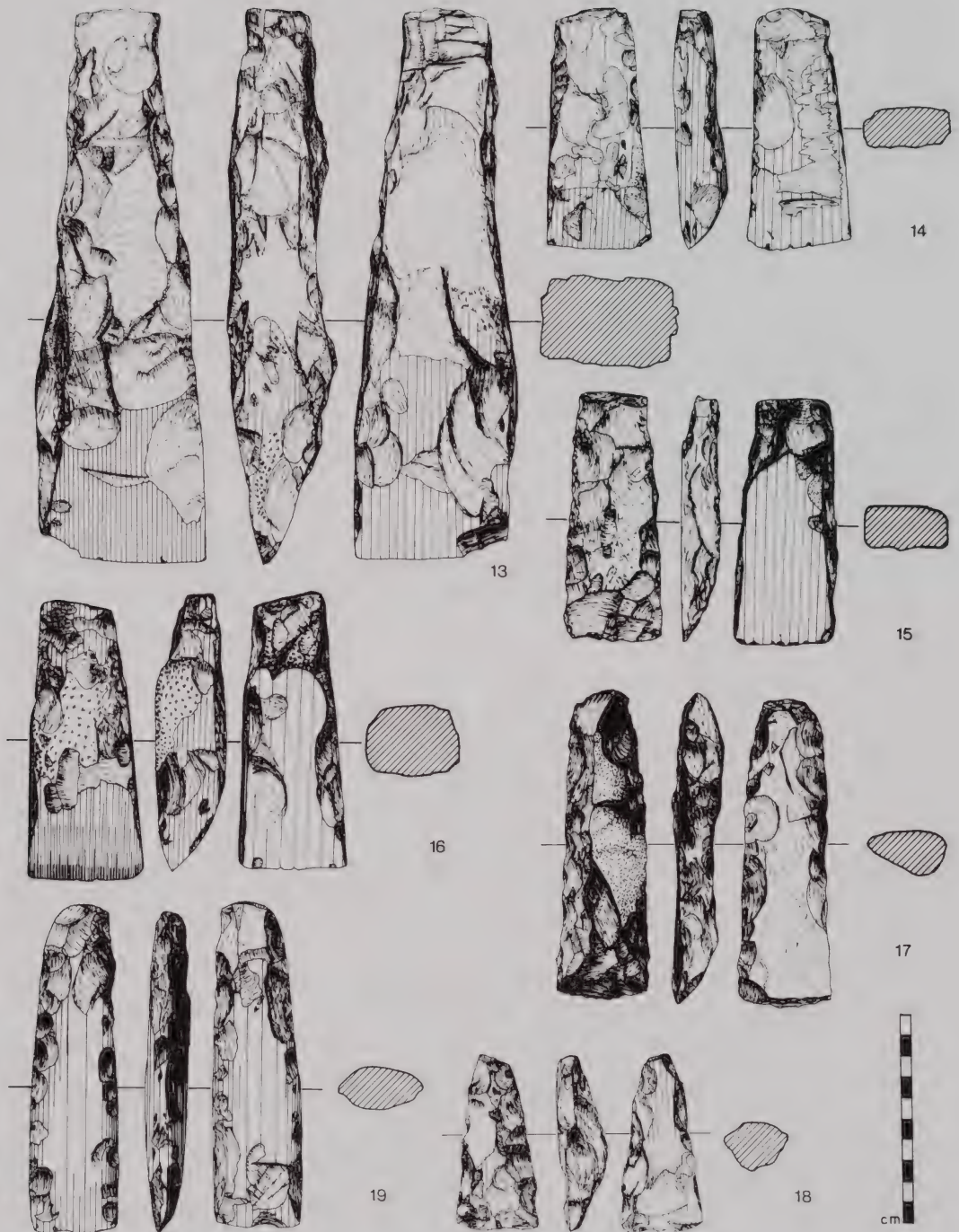
Duff (1956:170-176) describes early Polynesian adzes of triangular form, often of shallow cross-section in New Zealand examples. The form is well represented in the Brambley Collection by the untanged Duff Type 3B. In addition there are a number of smaller adzes and fragments which, though of triangular section, are less easily assigned to an early date. Not all Duff Type 3B adzes in the collection are from the Matatuahu site: the most outstanding items are not properly located (see Figs.140,141).

AR6938 (Fig.17) is made of light grey Tahanga basalt. It is in roughed-out form, retaining a large area of original patina on the front. It measures 148 mm in length and 43 mm across the blade. A reference in the Jolly and Law catalogue indicates that this item came from the Brambley excavation area.

A small triangular cross-sectioned adze is shown in Fig.18 (AR6980). The Ambrose and Golson catalogue states it was "dug out of the main culture level at Brambley's site." It is made of light grey Tahanga basalt and is relatively crudely flaked with some polishing, especially on the front. There is a marked reduction towards the butt end. Measurements are 84.5 mm length and 35 mm blade width.

Lenticular cross-sectioned adze

One of the most remarkable items of the entire collection is AR6908 (Fig.19). This adze is of strongly lenticular cross-section. Its discovery beneath moa bone within the Brambley excavation area confirms its archaic character. It is made of fine-grained



Figs. 13-19. Adzes of rectangular, triangular and lenticular cross-section, Matatuahu site. 13-16. Rectangular cross-sectioned adzes. 13. AR6944. 14. AR6901. 15. AR6899. 16. AR6897. 17,18. Triangular cross-sectioned adzes. 17. AR6938. 18. AR6980. 19. Lenticular cross-sectioned adze. AR6908.

green Waiheke Group greywacke and has a high degree of polish over skilful flaking from the two margins. The adze bears a resemblance to Skinner's Type VII (Skinner 1974:111) but does not have the 'coffin' shape truly characteristic of the type. The length is 156 mm and blade width 39 mm.

'Hogback' adze

Duff's (1956:176-184) Type 4 is, like the side-hafted and the triangular cross-sectioned Type 3B adze, an early form in the New Zealand sequence. Again it can be paralleled elsewhere in eastern Polynesia.

In addition to AR6902, already dealt with under chisels, only two items of this adze type are known to come from the Matatuahu site. AR6930 is the strongly hammer-dressed and well shaped butt end of an adze, made of fine-grained green Waiheke Group greywacke. It was found during the Brambley excavation of 1960. The complete adze was probably *ca.* 250 mm in length. AR6930 is illustrated with other Type 4 material (Fig.147).

From the beach in front of the Brambley excavation comes a butt fragment (AR6968; not illustrated) in pale grey Tahanga basalt, with original patina at the end. This also has the appearance of having belonged to a Type 4A adze perhaps of 200-250 mm length.

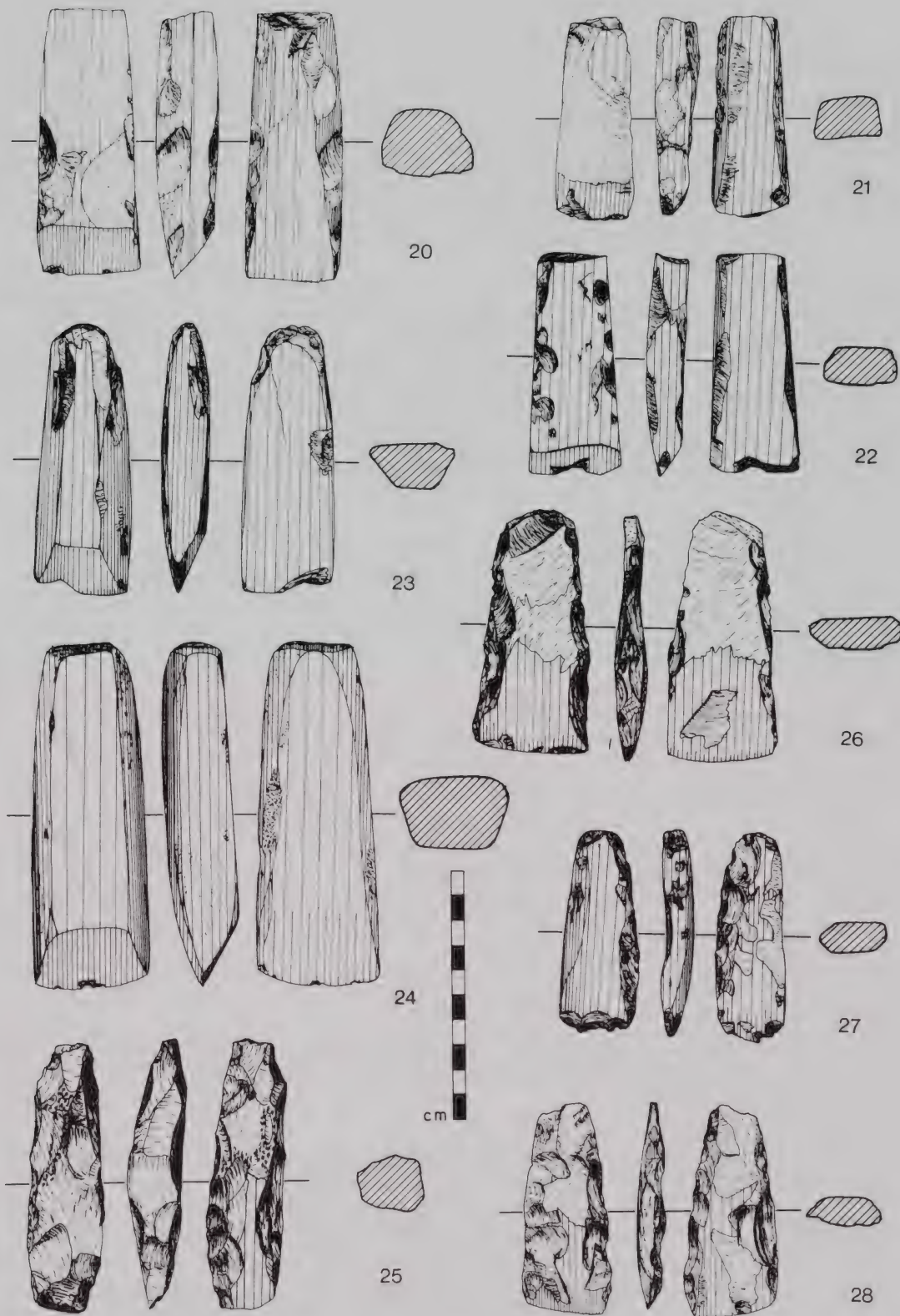
'Samoan' type adzes

Three adzes from the Matatuahu site fall into Duff's (1956:168-169) Type 2C form, of sub-rectangular cross-section with the back wider than the front. Duff follows Skinner (1974:107) in characterising it as the 'Samoan Type' from its prevalence in Samoan assemblages where it is commonly larger than the examples given here (Green 1974). Duff and Skinner both note its association with early sites; neither had seen an example from the North Island. All three adzes are provenanced to the Brambley excavation area, and all three are made of black Tahanga basalt.

The best example of the type is AR6884 (Fig.20). This has a high degree of overall polish with sharply defined margins except at the front which is notably rounded, especially towards the butt end. Haft polish is apparent on the back as far as the sharply defined, high angle bevel. Length 108 mm, blade width 34 mm. Less distinguished are AR6909 (Fig.21) and AR6924 (Fig.22). The former is a small flake adze, again with sharp edges, and overall polish except where the flake scar is apparent on the back. The steeply angled bevel ends at a battered blade. Length 80 mm, blade width 27 mm. AR6924 also has overall polish, sharp margins and a steep bevel to a battered blade. It measures 88 mm in length, with a blade width of 34 mm.

Miscellaneous adzes of sub-rectangular form

A small group of adzes from the Matatuahu site are more nondescript in form. AR6891 (Fig.24), for example, could as easily belong to any late assemblage. The adze



Figs. 20-28. 'Samoan type' and other sub-rectangular adzes and flake adzes, Matatuahu site. 20-22. 'Samoan type' adzes. 20. AR6884. 21. AR6909. 22. AR6924. 23-25. Miscellaneous adzes of sub-rectangular form. 23. AR6898. 24. AR6891. 25. AR6939. 26-28. Flake adzes. 26. AR6927. 27. AR6920. 28. AR6932.

was found on the beach between the Brambley excavation area and Te Pirau Point. It has a high degree of polish, with extensive haft rubbing at the butt end indicating a great deal of use. The overall polish makes the raw material difficult to determine, but it appears to be a dark greenish-grey fine-grained basalt or metamorphosed sandstone. The length is 137 mm and blade width 44 mm.

AR6898 (Fig.23) is a small adze of almost triangular section, probably of black Tahanga basalt. It was found eroding from the dune face only 2 m west of the University excavation area of November 1960. It has an overall polish on its sharply angled faces and measures 108 mm in length and 34 mm across the now damaged blade. Another adze of black Tahanga basalt (AR6923) is of similar, though unfinished, form; the length is 106 mm and the width 44 mm. The blade is very badly battered and may be in the process of being reworked. It comes from the Brambley excavation.

AK6939 (Fig.25) is fashioned from part of a broken adze but remains unfinished. It was found in the Brambley excavation and is made of grey Tahanga basalt. Part of the front retains the highly polished surface of the original adze, the remainder is flaked to a roughly rectangular form with some hammering in places. Length 107 mm, blade width *ca.* 20 mm.

Not illustrated is AR6956, the butt of a massive deep-sectioned adze from the Brambley excavation area. It is made of black Tahanga basalt. The available cross-section is strongly rounded over the basically rectangular form and is extensively hammer-dressed front and back with polish visible down the sides. The original length may have been 250-300 mm. A similar fragment of a smaller adze was found on the beach below the Brambley excavation area (AR6968). In this case the raw material is light grey Tahanga basalt and the fragment is highly polished with original patina at the butt end. AR6968 comes from an adze of deep cross-section which may possibly have been of 'hogback' form.

Flake adzes

A group of small adzes formed by minimal lateral reduction and somewhat cursory polish still bear the curved shape of their flake origin. All come from the area of the Brambley excavation.

AR6927 (Fig.26) is flaked along the margins, with only the blade end polished. The butt end retains the original patina. Typical of flake adzes, it has a shallow cross-section. Length is 97 mm, blade width 43 mm. AR6920 (Fig.27) is a reworked flake from the margin of a larger adze. Polish at the bevel and back is all that has been required, the front already being highly polished. The length is 79 mm, the badly battered blade is 27 mm in width. AR6932 (Fig.28) is of black Tahanga basalt with minimal polish near the blade front and back. Length 83 mm, blade width 32 mm.

Other adze fragments

Twenty-four further pieces of adzes or chisels included in the Brambley Collection

are said by Mrs Brambley to have come from the Matatuahu site. Brief information on the material is given in Table 1.

Half of this broken material is Tahanga basalt, with almost half the remainder Waiheke Group greywacke. Also represented are gabbro, black Mt Ears argillite, another, grey, high quality metasomatised argillite from the Nelson region and other basalt and argillites.

TWIN-LOBED PENDANT

One of the most important items in the Brambley Collection is a twin-lobed pendant, one of only ten examples of the form (AR7000, Fig.29; see Prickett 1985). It was found in the 1950s by Mrs Brambley just west of the rocky headland of Te Pirau Point at the start of the dune face, that is, at the extreme eastern end of the site. It is made of deep green/black serpentine with some pale green inclusions, almost certainly from the Nelson region. It measures 41 mm in width, 30 mm in height and 27.5 mm in depth, and weighs 44.8 g.

The Matatuahu pendant is the only example of the form unequivocally located north of the Cook Strait region. Of the others, five were found on the northern shore of the South Island, three on the North Island's south-west coast, with one uncertainly provenanced to Portland Island (Hawkes Bay) or possibly the Nelson district (Prickett 1985).

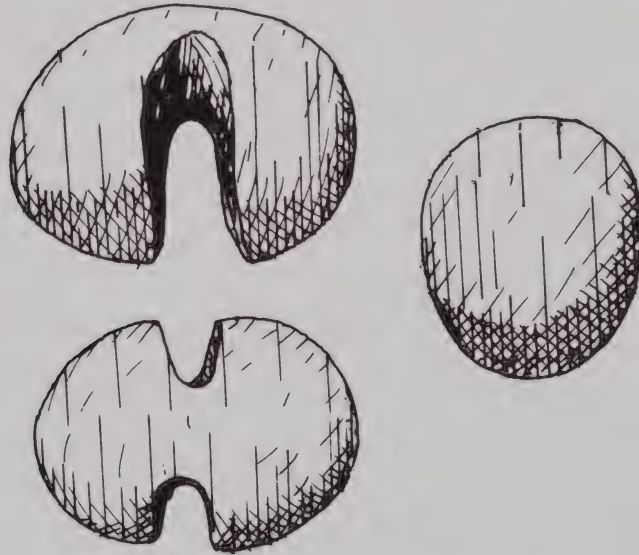


Fig. 29. Twin-lobed pendant from the Matatuahu site. Above left. Front view. Below left. Top view. Right. End view.

Table 1. Matatuahu site adze fragments.

AR	Description	Measurements of fragment	Raw material
6940	Crude rough-out of shallow triangular cross-section.	134 x 61 mm	Coarse trachyte
6950	Blade fragment of highly polished adze — probably of 2B form <i>ca.</i> 160-200 mm in length.	105 x 22 mm	Black basalt
6951	Central part of small, highly polished adze of 2B form. Hammer-dressed at sides.	57 x 37 mm	Green argillite — <i>c.f.</i> Taranaki material
6952	Central part of well-finished adze — possibly 2A form. Polished over flake scars.	105 x 59 mm	Light grey Tahanga basalt
6954	Fragment of adze blade. Highly polished with sharp angles. Adze probably of relatively broad-bladed 4A form.	43 x 26 mm	Light grey Tahanga basalt
6955	Butt fragment of rectangular cross-sectioned adze. Shows flaking, hammer-dressing and polish. Haft polish over original patina at butt end.	50 x 33 mm	Dark grey Tahanga basalt
6957	Central part of highly polished adze of sub-rectangular cross-section. Narrows to missing butt.	102 x 57 mm	Greywacke (Waiheke Group?)
6958	Polished and lightly hammer-dressed fragment of a Type 4A adze.	85 x 34 mm	Green Waiheke Group greywacke
6959	Fragment of rounded margin of a highly polished adze.	63 x 23 mm	Light grey Tahanga basalt
6961	Butt end of strongly rectangular cross-sectioned adze. Polished over flake scars. Some haft polish on butt.	57 x 37 mm	Black metasomatised argillite from Mt Ears source
6963	Blade end of Type 4A adze. Highly polished over flake scars. Blade width 29 mm.	40 x 39 mm	Light grey Tahanga basalt
6964	Roughly finished butt end of oval cross-section. Strongly hammer-dressed — rare polish.	70 x 45 mm	Pale grey Tahanga basalt
6965	Part of small crude rough-out. Some original patina. Flaked only.	56 x 33 mm	Trachyte
6966	Blade end of broken rough-out. Slight polish at blade. Flake adze?	53 x 41 mm	Light grey Tahanga basalt
6969	Butt part of well-finished Type 2B adze. Some hammer-dressing at margins. The broken end is severely battered from use as hammer subsequent to the break.	105 x 68 mm	Green Waiheke Group greywacke

Table 1. Matatuahu site adze fragments *continued*.

6971	Butt fragment polished two sides, flaked and hammer-dressed on third side.	62 x 41 mm	Green Waiheke Group greywacke
6972	Water-rolled pebble minimally flaked, hammer-dressed and ground into adze shape. Some original patina. Blade severely battered.	80 x 47 mm	Green argillite
6973	Butt part of adze rough-out from flake adze. Some polish.	42 x 42 mm	Light grey Tahanga basalt
6974	Butt part of adze rough-out flaked and hammer-dressed. No polish.	76 x 35 mm	Mid-grey Tahanga basalt
6977	Butt part of very rounded cross-section adze. Well finished by hammer-dressing and polishing.	63 x 43 mm	Green Waiheke Group greywacke
6978	Central part of a sharp-edged rectangular cross-sectioned adze. Highly polished but considerable subsequent damage.	59 x 41 mm	Light grey Tahanga basalt
7172.3	Fragment of rectangular cross-sectioned adze. Polished over flake scars with some polish on break surface.	69 x 29 mm	Light grey Tahanga basalt
7324	Reworked fragment of broken adze — some polish.	71 x 46 mm	Tahanga basalt
7325	Part of large adze. Some original polish and hammerdressing.	108 x 68 mm	Light grey Tahanga basalt

The twin-lobed pendant is certainly an early form. Nelson serpentine was the preferred raw material for stone pendants of archaic style, and what is known of the provenance of the various examples argues strongly for their being early in the New Zealand sequence.

FILES

Forty files, file fragments and files in the process of manufacture are included in the Brambley Collection. All probably come from the Matatuahu site. Examples are shown in Figs. 30-51.

The files are made of sandstone, except one of green schistose greywacke (Fig.38) which is very similar to that of files in Palliser Bay assemblages (Leach 1979:72). The latter is also similar to Palliser Bay files in its slender form which may be a function of its strength compared with sandstone. Sandstone is the underlying rock of Awhitu Peninsula and was thus available locally.

Among the pieces are nine files in the process of being manufactured (for examples, Figs. 30-32). On a few of these can be seen the signs of the pecking out of a

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Figs. 30-51. Files, Matatuahu site. 30. AR7173.7. 31. AR7173.34. 32. AR7392. 33. AR7392. 34. AR7392. 35. AR7173.22. 36. AR7173.1. 37. AR7173.3. 38. AR7173.11. 39. AR7173.14. 40. AR7173.38. 41. AR7173.10. 42. AR7173.8. 43. AR7173.13. 44. AR7173.5. 45. AR7173.17. 46. AR7391. 47. AR7173.9. 48. AR7173.15. 49. AR7173.6. 50. AR7391. 51. AR7173.20.

groove and subsequent snapping along that groove by which the file was derived from the initial larger piece of rock.

The majority of files are *ca.* 15 mm in width, of flat oval cross-section, typical of the small files found in coastal sites of moa-hunter age throughout New Zealand. Other files are larger, with cross-sections of 35 mm or more (see for example, Fig.51). Large and small files of flat oval cross-section have been used for fine work with bone, such as in the fashioning of one-piece fishhooks, and perhaps wood. Sandstone, although a rapid abrasive, is comparatively coarse, hence the importation of schistose greywacke from what is undoubtedly a distant source. The latter is fine enough to give an excellent finish and strong enough to withstand much use.

Interestingly four files display fragments of *kokowai* (red ochre) on their pitted surfaces. The outstanding example is AR7173.20 (Fig.51), a large file with *kokowai* over both sides as well as at one end. Three small files also have traces of *kokowai*.

DRILLPOINTS

More than seventy drillpoints in the Brambley Collection are assumed all to derive from the Matatuahu site. Examples are shown in Figs. 52-68. In the case of one item (AR7145, Fig.61) the precise provenance is known, it having been found with a piece of whalebone (AR7287) at the west end of the beach. Drillpoints, like files, are evidence of boneworking, in all probability directed towards the manufacture of one-piece fishhooks, and also the drilling of stone and shell.

Most of the drillpoints are made of chert. The collection includes 58 items listed separately in the Archaeology Department catalogue (AR7108-7156, 7158-7165). Another twelve drillpoints are represented by fragmentary material in a bag of chert flakes (AR7166.1). A further four drillpoints are fashioned from broken pieces of adzes: of Tahanga basalt (AR7171.15 and 7172.20, Figs. 52, 53), and metasomatised argillite (AR7172.13 and 7167.17, Figs. 54, 55). Chert drillpoints are illustrated in Figs. 56-68.

HAMMERSTONES

Nineteen hammerstones are listed in the Jolly and Law catalogue of the Brambley Collection. A further four make a total of 23 described as such among material which came into the museum (AR7009-29, 7332-33). Twelve of the 23, however, can safely be rejected as hammerstones for lack of characteristic battered areas or facets. AR7009 was not found at the Matatuahu site and is treated below in the section on material from other than N46-47/17. The ten remaining items are said by Mrs Brambley to have come from the Matatuahu site.

The hammerstones fell into three groups: spherical stones substantially battered (i.e. used) all around (Figs.69-71), stones of flat oval cross-section which show use all or part-way around the rim (Figs.72-76) and flat pebbles used only around the narrow

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Figs. 69-78. Hammerstones, Matatuahu site. 69. AR7018. 70. AR7017. 71. AR7029. 72. AR7013. 73. AR7014. 74. AR7015. 75. AR7012. 76. AR7016. 77. AR7010. 78. AR7021.

Figs. 52-68. Drillpoints, Matatuahu site. 52. AR7171.15. 53. AR7172.20. 54. AR7172.13. 55. AR7167.17. 56. AR7125. 57. AR7129. 58. AR7126. 59. AR7119. 60. AR7154. 61. AR7145. 62. AR7109. 63. AR7122. 64. AR7120. 65. AR7161. 66. AR7135. 67. AR7124. 68. AR7123.

Table 2. Matatuahu site hammerstones.

Fig.	AR	Dimensions (mm)	Weight (g)	Raw material	Shape and use
69	7018	79 x 74	604	Pale chalcedonic chert	Virtually spherical — used almost all over
70	7017	69 x 49	297	Green chert	Flaked to shape then used all over except area of brown cortex
71	7029	46 x 44	126	Green chert (c.f. AR7017)	Small faceted hammerstone used over entire surface
72	7013	73 x 47	338	Grey-brown chert	Water-rolled pebble is used at two ends of the long circumference
73	7014	62 x 42	177	Green Waiheke Group greywacke	Hammerstone made by flaking — lightly used around circumference
74	7015	63 x 29	145	Fine-grained green chalcedonic chert	A flat stone has been made with the help of natural cleavages in the rock — used around the full circumference
75	7012	66 x 55	306	Chert — pale brown with red patina	Faceted pebble is much used around the full circumference but not on the two flat sides
76	7016	92 x 85 49 deep	567	Andesite	A flat water-rolled stone is battered all around the circumference
77	7010	89 x 76 20 deep	186	Basalt	Spall from a water-rolled boulder is battered around the narrow perimeter
78	7021	69 x 59 24 deep	143	Greywacke	Flat water-rolled pebble used at two ends

rim (Figs.77-78). Table 2 lists the ten items and their salient characteristics. Raw materials are chert, basalt, greywacke and andesite, ranging from very hard in the case of chalcedonic cherts to comparatively soft basalt and andesite.

From the evidence of other stone material on the site the Matatuahu hammerstones would have been used for flaking stone, for hammer-dressing items such as adzes and for pecking out areas such as fishing sinker tying grooves. The larger heavy stones are typical flaking hammerstones, such as AR7018 (Fig.69) which was found with a large chert core (AR7351; see Fig.104). Narrow-rimmed items, for example AR7010 and AR7021 (Figs.77,78), may have been used for work such as preparing grooves in sinkers. Hammerstones like files and drillpoints are tools to make tools and as such are evidence of manufacturing taking place at the site.

HOANGA

Only two *hoanga*, or grindstones, in the collection of approximately twenty pieces collected and catalogued as such, are securely located to the Matatuahu site. It is, nonetheless, likely that many of the remainder also come from the site but that their exact provenance is now lost. Illustrations are with unprovenanced material (Figs. 184-194).

A massive sandstone block 400 x 170 x 80 mm (AR6989; Fig. 186) was found on the beach at the west end of the site. The two largest sides are slightly concave as a result of use as a grindstone. The second item is more problematic. AR6990 (Fig. 185) is a block of coarse crystalline sandstone, with grooves and some 'dishing' which may be the result of grinding and sharpening stone tools. It was found on the beach near the 1960 Brambley excavation.

SINKERS

Of the very large number of stone fishing sinkers in the Brambley Collection only three can be located to the Matatuahu site with any certainty. Mrs Brambley recalls that no sinkers were actually excavated from the site but that all were found along the shore, mostly from Wattle Bay (Awhitu) to Tarataua (see Fig. 2). Matatuahu sinkers are illustrated with unprovenanced material (Figs. 154-173), where the topic is covered in more detail.

AR7055 (Fig. 169) was washed out at the west end of the site. It is made of a vesicular basalt by means only of four very minimal notches hammered at opposite margins of the slightly flat cobble. Two small sinkers of consolidated iron sand (AR7058 and AR7067, Fig. 166) also come from the beach at the west end of the site. Both are elongate and designed to hang down their long axes.

PUMICE

Approximately 35 pieces of pumice are included in the Brambley Collection. All are presumed to come from the Matatuahu site. (An exception is AR7234 from Rangatira Point, Lake Taupo; see Appendix 1). The great majority display no sign of having been used or worked, their even rounded form most likely resulting from natural abrasion. Artefactual pieces are shown in Figs. 79-91.

Fig. 79 shows a piece of pumice with a large groove indicating use for polishing a wood shaft (AR7230). Another piece showing many polishing facets and grooves is AR7232 (Fig. 80). At least three pieces of elongated 'file' shape may have been used for polishing or abrading (AR7231, Fig. 81; AR7246, Fig. 82; AR7238, Fig. 85). Other pieces of similar form are less easily identified as tools. Two pieces have curved polishing facets (AR7239, Fig. 83; AR7240, Fig. 84), while two more are thin with flat polishing surfaces, one of which also displays signs of use on its sharp edge (AR7237, Fig. 86; and AR7236, Fig. 87).

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Figs. 79-91. Pumice, Matatuahu site. 79. AR7230. 80. AR7232. 81. AR7231. 82.
AR7246. 83. AR7239. 84. AR7240. 85. AR7238. 86. AR7237. 87. AR7236. 88.
AR7290. 89. AR7288-89. 90 AR7291. 91. AR7276.

A group of five small pieces of pumice found adjacent to the University excavation area show signs of having been worked, including shaping and drilling (AR7288-7291, 7276; Figs. 88-91). Other pumice items are tools used in manufacturing, these pieces are themselves the object of manufacture. Just what the purpose was is open to question: two fitting pieces (Fig.89) have been shaped and drilled in the manner of a one-piece fishhook tab.

KOKOWAI

Approximately 35 pieces of *kokowai*, or red ochre, are said by Mrs Brambley to have come from the Matatuahu site (AR7252-7257). They weigh a total of 1580 g with one large piece of coarse sandy material making up 961 g of this. *Kokowai* is available in the Waitakere Ranges north of the Manukau Harbour entrance.

Kokowai from Matatuahu ranges from coarse-grained soft sandstone to very fine-grained compact lumps of clay-like consistency. Other material has the texture and orange-red colour of brick.

Two pieces have evidence of use. A very fine-grained fragment of deep red colour, broken off a larger piece, has grooves 4-6 mm wide on two faces indicating use for rubbing on an edge of some kind (AR7255). The second piece, again only *ca.* 40 mm in maximum dimension, is strongly dished on one face (AR7253). Traces of *kokowai* on a quarter of the obsidian flakes and on some files recovered from the Matatuahu site provide further evidence of the use of this important decorative material.

MISCELLANEOUS STONE MATERIAL

Stone flakes in the Brambley Collection are all attributed to the 1960 excavations. The material includes waste flakes and fragments and cutting and scraping tools. Stone material includes obsidian, chert, basalt, metasomatised argillite, greywacke, sandstone, nephrite and other rock types.

Obsidian

Several hundred obsidian flakes and fragments include green and grey material. Almost all are of good quality obsidian, with some spherulitic material especially of grey colour. There is limited evidence of patination to suggest large blocks of obsidian. A high proportion show signs of edge damage as a result of use as cutting, scraping and finishing tools. Approximately one-quarter of the total have *kokowai* remains adhering to them, to indicate use in working or finishing items with *kokowai* decoration.

Green obsidian is much the most abundant: approximately 450 flakes and core fragments weigh a total of 2585.5 g. Included are 98 flakes (439.5 g) with *kokowai* remains adhering to them. Some very large pieces make up much of the total weight, six total 819 g. Among the latter are two core pieces with water rolled surfaces. One

piece appears to have been fashioned from a prepared block as a 'blade'. It measures 75 x 25 mm and bears clear signs of earlier 'blades' having been struck from the 'outer' surface of the prepared core.

Grey obsidian totals approximately 130 pieces, weighing 596 g. Thirty pieces (179 g) carry traces of *kokowai*. The material includes obsidian with spherulites — of a poorer quality than other stone and frequently retaining some cortex, showing that it is collected from stream beds and gravel deposits rather than from *in situ* flows. Other grey obsidian is very pale milky grey and yet another variety is banded. One piece has a cortex with pink striations. Flakes of grey obsidian are commonly smaller than those of green material.

One fragment of obsidian has the surface colours black (grey?) and brick red. Large grey spherulites are present. The material is of comparatively poor quality and is clearly waste, having no useful edge or sign of wear.

Chert

Approximately 650 pieces of chert weigh a total of *ca.* 17.27 kg. Included are several core blocks, large flakes (many with edge damage), drillpoints, and small used flakes, waste flakes and pieces. A range of flakes and cores is illustrated in Figs. 92-106.

The collection includes cherts of a very wide variety of colours and qualities. There is superb quality chert of fine even grain, in opaque and translucent white, grey, and brown. High quality pale chalcedonic cherts, red siliceous sinter such as that from Kuaotunu Peninsula, Coromandel (for example, AR7166.14; Fig.100), and poorer quality petrified wood and chert tending to quartz are all represented. Poorer quality material comes in a wide range of colours. The immense range of cherts illustrates both the extensive 'catchment' area of the Matatuahu site and a very considerable knowledge of available resources on the part of its inhabitants.

Several large blocks illustrate the nature of chert usage. Such 'cores' would be brought to the settlement at the mouth of the Manukau Harbour where sharp-edged flakes would be struck off as required. AR7352 (Fig.105) is a massive (6.8 kg) block of stone extensively worked for unusually large flakes of very even quality. Mrs Brambley recalls that this item came from within the early 1960 excavation area. Areas of cortex remain on both sides. The material is an orange-brown colour with faint black marking throughout. AR7351 (Fig.104) is a 1581 g core of fine grained creamy-white chert — comparatively intractable material from which to strike useful flakes. It was found in association with a hammerstone (AR7018) at the Matatuahu site. Much better quality is AR7166.21 (Fig.106). This item weighs 931 g and is coloured grey and black in fine bands. Despite extensive use it retains some areas of original patina on most sides. The smallest of the illustrated chert cores (263 g) is AR7166.14 (Fig.100). In this case the material is of pink, cream and yellow colour and is strongly vesicular — the overall appearance is reminiscent of the siliceous sinter sourced to Kuaotunu Peninsula, Coromandel. The rock has been difficult to deal with because of a tough and uneven texture, but nonetheless has extensive signs of working to remove mostly small flakes.

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Figs. 92-106. Chert flakes and cores showing a range of raw materials, Matatuahu site. 92. AR7166.25. 93. AR7166.5. 94. AR7166.2. 95. AR7166.22. 96. AR7166.27. 97. AR7166.24. 98. AR7166.19. 99. AR7166.16. 100. AR7166.14. 101. AR7166.12. 102. AR7166.26. 103. AR7166.18. 104. AR7351. 105. AR7352. 106. AR7166.21.

Tahanga basalt

In addition to the complete or part adzes made from Tahanga basalt there is a small number of flakes and fragments. The material includes as many as six large 'primary' flakes struck from a block in the course of adze manufacture. These indicate that at least some Tahanga basalt was brought to the Matatuahu site unworked or only partly worked for subsequent fashioning into adzes. Some of the smaller flakes have polished surfaces to show that they were struck off adzes.

Other basalt

Less than ten struck flakes and upwards of 100 small chips and fragments are included among poor quality basalt material. It is likely this material comes from the north side of the Manukau Harbour entrance where the notable headland landscape feature, Paratutae, is made of basalt. While the struck flakes and rare poor quality rough-out items indicate some use of this material in adze making, it seems likely that much of it came to the site as hangi stones.

Metasomatised argillite

A few small flakes of metasomatised argillite may be added to the various complete or part adzes and chisels which have come from the Nelson-D'Urville Island 'mineral belt'. Included in the waste material are at least eight flakes of characteristic argillite from the Ohana source at the south end of D'Urville Island. Three pieces of high quality black stone come from the Mt Ears source, also on D'Urville Island.

It is likely that all, or almost all, these small flakes come from damaged adzes. In the case of two of the items of Ohana argillite this is evident from hammer-dressed surfaces. The black Mt Ears pieces all have areas of polish. Two other fragments from broken metasomatised argillite adzes have been transformed into drillpoints (one Mt Ears material, AR7172.13, Fig.54; and one possibly of Ohana stone, AR7167.17, Fig.55). Another fragment of Ohana argillite has received some minimal polishing to form a tiny chisel (AR7167.6). More substantial pieces of broken adzes are treated above. The high level of re-use of broken adzes of metasomatised argillite demonstrates the great value put on this material.

Waiheke Group greywacke

Approximately twenty fragments of the characteristic high quality Waiheke Group (Schofield 1967) greywacke are included among waste stone material from the Matatuahu site. At least ten are from broken adzes, demonstrated by polished surfaces. The remainder include small pieces which may be from broken adzes, and one large piece (AR7337) which is clearly too large to be part of a former tool, and thus demonstrates at least some transportation of raw material to the site.

Nephrite

Rare nephrite (pounamu) items and fragments in the Brambley Collection include some which come from the Matatuahu site. Eight tiny fragments of pale green (almost inanga variety) nephrite (AR7179) are probably those remaining of ten which are reported as having been found during the Brambley excavations of early 1960 (see Brambley 1966:120). They all come from one piece of stone, five of the fragments showing signs of having been cut. A 22 mm long, 12 mm wide blade fragment of a nephrite chisel (AR7174) is also said to have come from the Matatuahu site.

Other stone material

In addition to the raw materials listed above, a wide range of rock types, less important in tool making, is represented in the Matatuahu assemblage. Included are a variety of greywackes and unaltered argillites, trachyte and mudstones. At least some of these materials were brought from a distance to the site, and must therefore have had a value not always apparent from remaining fragments.

BONE

Bone from the Matatuahu site can be attributed to the limited excavations of January-February 1960 and November 1960, and the Trower-Jolly material of 1965. Moa and dog bone is the most abundant, with some sea mammal and fish making up the remainder.

Moa

Moa bone is very rare in sites of the Auckland region so that material from the Matatuahu site is of some importance. Approximately 800 g of bone has been identified in the Brambley Collection.

Table 3 shows moa represented at Matatuahu to belong to only three species: *Dinornis novaezealandiae*, *D. struthoides* and *Pachyornis mappini*. All identified material is of the large leg bones, femur and tibiotarsus. The only substantial bone is a 340 mm long shaft of a *D. novaezealandiae* right tibiotarsus (AR7272). All else is very fragmentary material.

Bone from the Matatuahu site does not appear to represent the killing and butchery of moa. It has nothing of the fresh character of moa bone such as from another west coast North Island site, Kaupokonui (N128/3B) in south Taranaki. The Matatuahu bone was probably brought to the site as sub-fossil bone for manufacturing into fishhooks and other items. The argument for this is strengthened by the only bones present being the femur and tibiotarsus, the very bones which would have been selected for industrial purposes.

Table 3. Matatuahu site moa bone.

Cat. no.	Description
<i>Brambley Collection</i>	
AR7271	Tibiotarsus fragment — <i>Dinornis</i> , at least <i>D. novaezealandiae</i> size (Fig.131)
AR7272	Right tibiotarsus — <i>D. novaezealandiae</i> (approaching <i>giganteus</i> size)
AR7295	Femur? fragment — medium sized moa
AR7301	Fragment — medium to large moa (<i>Dinornis</i> ?)
AR7302	Fragment — medium to large moa (<i>Dinornis</i> ?)
AR7303	Fragment — medium to large moa (<i>Dinornis</i> ?)
AR7309	Fragment — medium to large moa (<i>Dinornis</i> ?)
AR7316	Fragment — medium to large moa (<i>Dinornis</i> ?)
AR7364	Femur fragment — medium to large moa
<i>November 1960 excavation</i>	
AU402a	Tibiotarsus fragment — <i>Dinornis</i> , at least <i>D. novaezealandiae</i> size
AU402b	Tibiotarsus fragment — <i>Dinornis</i> , at least <i>D. novaezealandiae</i> size
AU402c	Tibiotarsus fragment — <i>Dinornis</i> , at least <i>D. novaezealandiae</i> size
AU402d	Distal end of right tibiotarsus — <i>D. struthoides</i>
AU346	Shaft fragment left tibiotarsus — <i>D. novaezealandiae</i> (assumed to originate from November 1960 excavation)
<i>Trower and Jolly collection</i>	
AR7445	Right femur fragment <i>Pachyornis mappini</i>
AR7445	Shaft fragment femur or tibiotarsus — probably <i>P. mappini</i>

One *Dinornis* tibiotarsus fragment (AR7271, Fig. 131) has been reduced down the sides and cut at one end, while a number of other fragments have been prepared to shape, including AR7273 (Fig.128) which has been drilled. At least some of the one-piece fishhook fragments are of moa bone (including AR7361.1, Fig.107).

Dog

The greater part of dog bone from the Matatuahu site was collected by the Brambleys and R.G.W. Jolly in 1960, coming to the museum via the University collections. Other bone came to the museum in 1974 and 1981, and in the small Trower and Jolly collection of 1965. The material was not collected systematically; much of it is in a very fragmentary state.

The bone consists largely of head and limb bone fragments. Four intact or substantially intact mandibles and a great deal of more fragmentary material indicate



Figs. 107-131. Moa and sea mammal bone fishhooks and worked bone, Matatuahu site. 107-117. One-piece fishhooks. 107. AR7361.1. 108. AR7361.2. 109. AR7283. 110. AR7264. 111. AR7269, AR7266, AR7265. 112. AR7385. 113. AR7275. 114. AR7268. 115. AR7362.1. 116. AR7362.2. 117. AR7358. 118-120. Two-piece fishhooks. 118. AR7261. 119. AR7360. 120. AR7267. 121-127. Waste from one-piece fishhook manufacture. 121. AR7286. 122. AR7285. 123. AR7281. 124. AR7384. 125. AR7280. 126. AR7358. 127. AR7270. 128-131. Worked pieces of bone. 128. AR7273. 129. AR7366. 130. AR7277. 131. AR7271.

as many as ten right and four left mandibles. Maxilla material is even more fragmentary. There are also some loose teeth. Numerous small skull fragments include frontal and occipital material. Three left humeri are represented by small pieces, all of which display signs of having been chewed by dogs. Two of the three left and two right ulna fragments also have apparently been chewed. The radius is represented only by some very fragmentary material. One right femur is heavily chewed by dogs. Three tibia fragments again include two which have been chewed by dogs. Eight or more metapodials complete the limb bones. Other bone consists of at least two vertebral pieces, a pelvic fragment and some fragmentary rib pieces.

There is little that can be said about the dog bone. Much of the bone suggests larger animals than were present at far north sites of similar age (M. Taylor, pers. comm.). One metapodial was from a juvenile animal. The predominance of skull and limb bones may have something to say about butchering and consumption patterns or may relate only to differential survival or collector interest.

Sea mammal

All seal bone probably comes from the New Zealand fur seal (*Arctocephalus forsteri*), although sea lion (*Phocarcos hookeri*) could not be ruled out in some cases. Among seal bone is a substantial piece of right radius, the proximal end of a left radius, a left ulna fragment, two canines and some other teeth, and fragmentary material. A massive piece of bone (AR7287) from a medium sized (13-17 m) whale is said by Mrs Brambley to have come from the west end of the Matatuahu site.

Among worked and artefactual material are several one-piece fishhook fragments of sea mammal bone (AR7265-6 and AR7269, Fig.111; AR7268, Fig.114; and AR7275, Fig.113). The worked pieces AR7277 and AR7366 (Figs.130,129) are also sea mammal bone.

Fish

Approximately 60 g of fish bones is almost all snapper (*Chrysophrys auratus*) at least some of which is dog chewed. Jaws are strongly represented. A shark tooth and single trevally (*Caranx georgianus*) bone make up the remainder.

Pig

A single fragment of a pig mandible only demonstrates the shortcomings of surface collected material.

BONE ARTEFACTS

Bone artefacts are confined largely to fragments of one-piece fishhooks and waste pieces from their manufacture (Figs.107-117,121-130). There are also rare pieces of

two-piece fishhooks (Figs.118-120) and some worked bone for which the purpose is not entirely clear (for example Fig.131). An especially important item is a harpoon point (Fig.132). Sea mammal and moa bone were both used although most bone is too fragmentary and too weathered for proper identification.

One-piece fishhooks follow typical early forms. Fig.111 depicts a reconstructed hook made from four fragments (two fitting) of markedly similar bone which may have belonged to one hook. The bone is identified as sea mammal. Three parts of two-piece bait hooks (Figs.118-120) must be assumed to have come from the Matatuahu site for lack of alternative information.

Pieces of worked bone include sawn fishhook blanks (Figs.129,130) and at least four other fragments of bone which have been partly prepared for future use. In some cases working has involved only the rough breaking out of usable flat pieces of bone. Fig.131 (AR7271) depicts a 130 mm long tibiotarsus fragment of *Dinornis* size which has been flaked to shape down both sides and sawn then snapped at one end. The 340 mm long piece of a *Dinornis novaezealandiae* tibiotarsus is part of this assemblage of industrial moa bone.

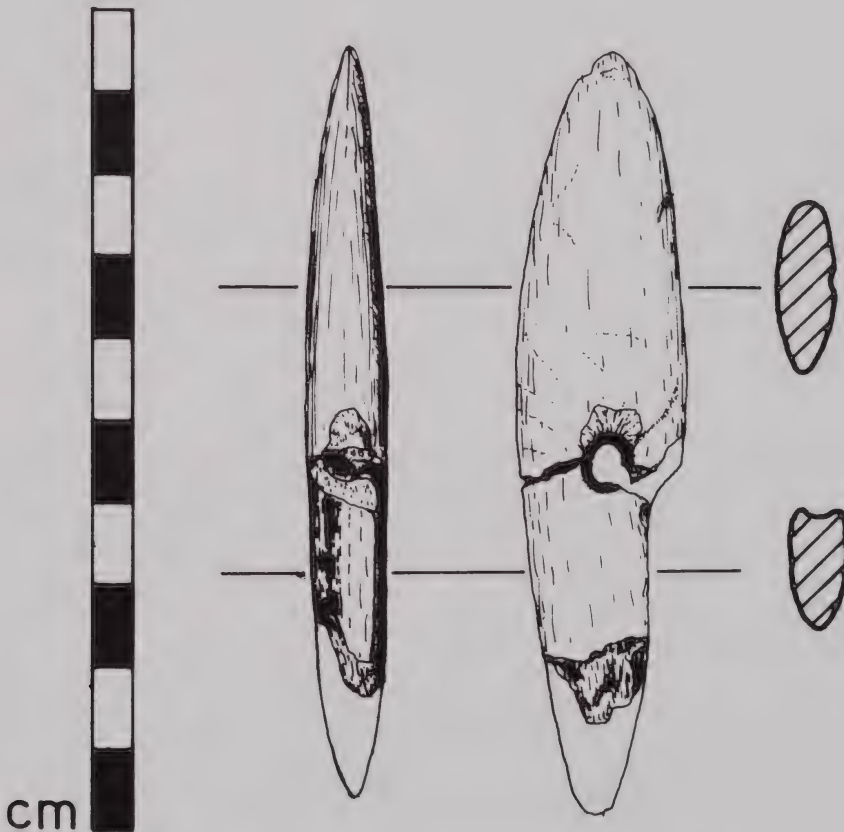


Fig. 132. Bone harpoon point, Matatuahu site. AR7359.

Harpoon

An incomplete harpoon point (AR7359, Fig.132) was found in early 1960 during the Brambley excavations. It is made of moa or sea mammal bone and is 82 mm long. A single perforation (now broken out), with a shallow groove to the rear of it, provides for attachment to the harpoon shaft. Skinner (1974:144) depicts this harpoon point and places it in his Variety 6, "harpoon head without barb and grooved". He pictures a similar example from the Dunedin district. It is clear that harpoon points of this style belong to the earliest period of New Zealand history, notwithstanding Duff's (1956:229) reference to eighteenth century associations of a Banks Peninsula harpoon point and the well-known Oruarangi examples which must be late (Skinner 1974:144-145). The parallel between New Zealand and other eastern Polynesian harpoon points has been drawn often enough — the Matatuahu point is a key item in dating the site at an early period of settlement in the greater Auckland region.

MATERIAL FROM OTHER THAN THE MATATUAHU SITE

AND UNPROVENANCED MATERIAL

Material in the Brambley Collection from other than the Matatuahu site is generally more selective than the Matatuahu assemblage. It comprises mostly adzes, fishing sinkers, hammerstones, grindstones and a few items of European manufacture. Absent are artefacts made of bone, sandstone files, drillpoints and waste and flake stone material.

A number of individual items and groups of items have some provenance information. It must be remembered, however, that only positively located material is included above in the Matatuahu assemblage, and that many of the items introduced below may also have come from the N46-47/17 site.

ADZES AND CHISELS

In the Brambley Collection adzes from other than the Matatuahu site are dominated by the simple, and probably late, Duff (1956:163-168) Type 2B form. Rare items of distinctly archaic character it is tempting to add to the early assemblage for the Awhitu district even when a location other than the Matatuahu site is given.

Adzes of rectangular or sub-rectangular form

Duff's (1956:163-168) Type 2B form is the least satisfactory of his adze types, reflecting as it does the comparative rarity of the form among South Island assemblages with which he was most familiar. He describes his Type 2B as, "... the type of medium-sized adzes of rounded rectangular section, without grip" (Duff 1956:164). In North Island assemblages these adzes can be very abundant and may take a variety of forms within the overall type. In the Brambley Collection a total of 23 adzes from other than the Matatuahu site may be grouped under the general 2B form. A range of

forms is shown in Figs.133-139; the remainder, which are not illustrated are listed in Table 4.

Fig. 133 depicts a highly polished adze of very rounded cross-section (AR6896). It is made of dark green material which may possibly be Waiheke Group greywacke. Distinctive half-polish on the butt indicates heavy usage. The length is 147 mm; the width of the now broken blade may have been *ca.* 60 mm. AR6913 (Fig.134) also has a very rounded cross-section, in this case reduced sharply to the butt end. The stone is a green greywacke, also probably of Waiheke Group material. The length is 124 mm and blade width, 50 mm.

Figs. 135 and 136 show two small adzes which were found together on the beach below Tipitai homestead, and which were the first adzes found by the Brambley family. The chisel AR6916 (see below) was found close by. AR6883 (Fig.135) is a highly polished adze of unremarkable Type 2B form. The raw material is black Mt Ears (D'Urville Island) metasomatised argillite. A high degree of polish on the butt relates to hafting of the adze in the socket of a two-piece helve. It is 92 mm long with a 48 mm wide blade. AR6885 (Fig. 136) is made of a green indurated argillite (which is interestingly similar to that of the Purangi source in Taranaki; Keyes 1971). This adze also has a high degree of overall polish, except for a slight hammer-dressed reduction part way down the front margins. Haft polish is apparent on the back and at the butt end. The length is 90 mm and blade width, 41 mm.

Several adzes are of the style illustrated in Fig.137. This broad form with a steep and well-defined bevel is often made of Waiheke Group greywacke in the Auckland region, as indeed is the example shown, AR6887. Other Brambley Collection adzes of this style made of the same material are AR6890 and AR6893 of which details are given in Table 4. AR6887 was found on the beach half-way between Tipitai and Awhitu. It is polished overall with its short steep bevel rising from a severely blunted blade — so blunt in fact that it would certainly not cut wood. The length is 138 mm and blade width, 69 mm.

AR6962 (Fig.138) is a reworked piece from a larger broken adze, possibly of Type 1A form. On one side there is a polished surface with *ca.* 10 mm of hammer-dressed grip reduction at one end. The other faces are all flaked as the craftsman has attempted to fashion a new adze from the broken fragment. The raw material is mid-grey metasomatised argillite probably from a Nelson source.

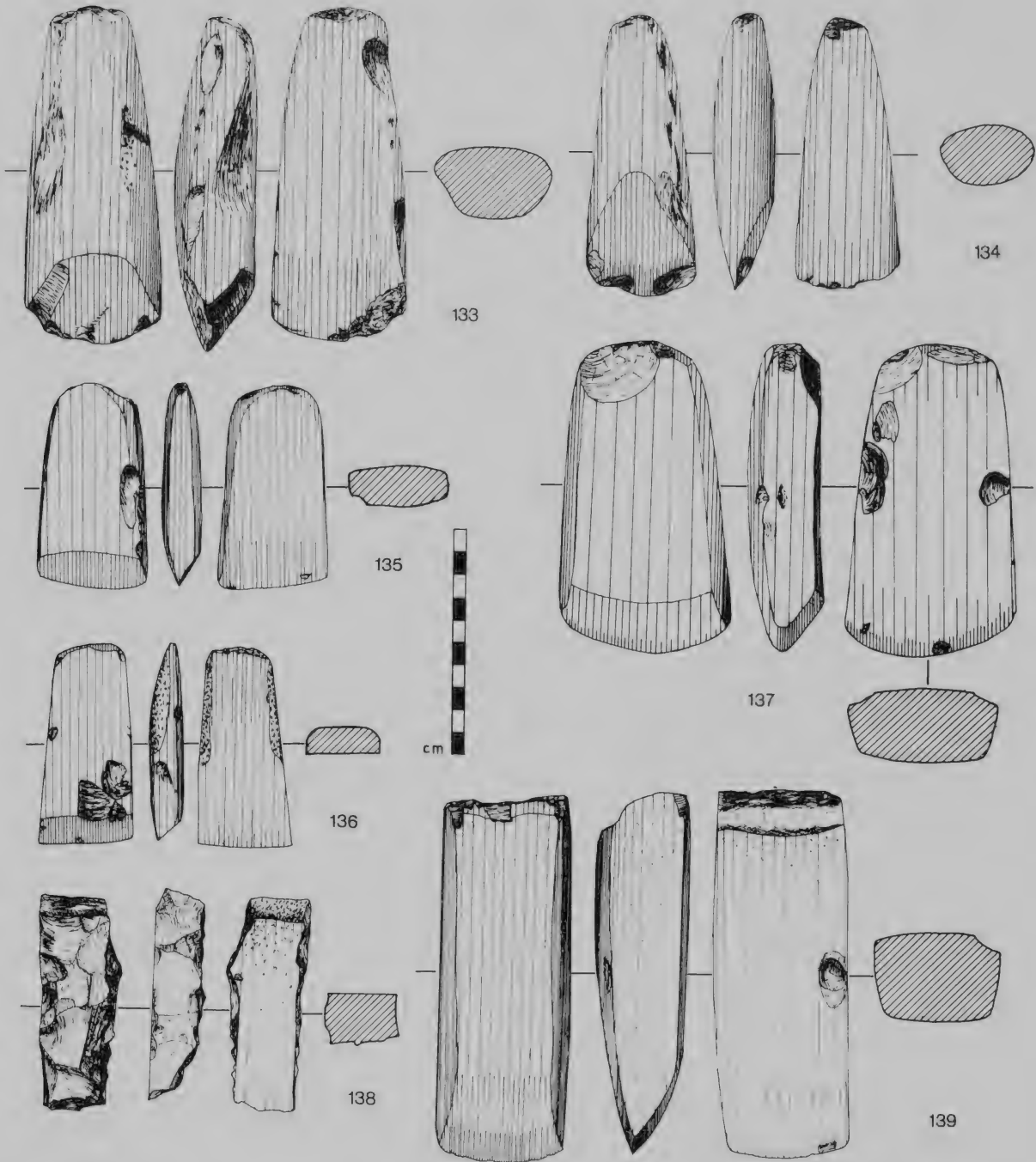
Another adze which has been re-used following breakage is AR6915 (Fig.139). Made of a relatively coarse green Waiheke Group greywacke, this highly polished adze of close to square cross-section has had an unknown amount broken off the butt end. A minimal amount of regrinding smooths off the front and rear edges of the break to allow re-use. The length of the surviving piece is 164 mm and the blade width is 52 mm.

A further 16 Type 2B adzes are listed in Table 4. Information regarding the provenance of some of these is given by Mrs Brambley. AR6889 was found on the beach below the lighthouse at Manukau South Head. AR6894 is said to have been

Table 4. Brambley Collection Type 2B adzes, from other than the Matuanahu site*.

AR	Condition	Finish	Length (mm)	Width at blade (mm)	Raw material
6886	Complete	All over polish	87	45	Waiheke Group greywacke
6888	Broken blade	All over polish — some original patina	ca. 105	ca. 42	Waiheke Group greywacke
6889	Complete — sand blasted	All over polish	93	44	Waiheke Group greywacke
6890	Complete	All over polish	127	70	Waiheke Group greywacke
6892	Broken blade	All over polish	ca 122	ca. 49	Waiheke Group greywacke
6893	Complete	All over polish	96	44	Waiheke Group greywacke
6894	Complete	All over polish	129	49	Waiheke Group greywacke
6895	Complete	All over polish	73	38	Black (Tahanga?) basalt
6900	Broken blade	All over polish	76	ca. 43	Waiheke Group greywacke
6904	Complete	All over polish except deep flake scars	82	39	Volcanic breccia
6906	Battered blade	All over polish — lateral hammer-dressing	119	ca. 57	Waiheke Group greywacke
6912	Complete	All over polish — minimal hammer-dressing at sides and butt	163	52	Waiheke Group greywacke
6926	Broken — being reworked	Some polish and hammer- dressing from broken adze	71	ca. 44	Tahanga basalt
6931	Complete — remodelled from part of larger adze	All over polish except flake scars	69	31	Black Tahanga basalt
6948	Complete except for slightly damaged blade	All over polish except deep flake scar at front	86	45	Pale grey Tahanga basalt
7446	Complete except for two small damage flakes off blade	All over polish	32	20	Metasomatised argillite — Ohana source

* Not illustrated in Figs. 133-139.



Figs. 133-139. Adzes rectangular and sub-rectangular form, Manukau South Head district. 133. AR6896. 134. AR6913. 135. AR6883. 136. AR6885. 137. AR6887. 138. AR6962. 139. AR6915.

found in the cowyard at Tipitai, and AR6895 was found in the garden at Tipitai — apparently with paint on it, indicating that it had been discarded by an earlier finder.

Triangular cross-sectioned adzes

Two important triangular cross-sectioned adzes of early form probably relate in general to the Matatuahu assemblage. Both belong to the untanged Duff (1956:170-176) Type 3B.

AR6942 (Fig. 140) was found on the shore below the lighthouse, 1-2 km west of the Matatuahu site. It is made of grey Tahanga basalt on which original patina is visible at the butt end. The adze is superbly flaked, with hammer-dressing confined to a little smoothing of the sharp side edges. It is unfinished; no polish is apparent. The length is 267 mm, and the blade width, 97 mm.

A smaller Type 3B adze (AR6921, Fig. 141) is almost identical in form and treatment. Again it is rendered in Tahanga basalt, this time however, of the black variety. This adze, too, is superbly crafted. Like AR6942 it has overall flaking (although here there is the faintest polish on the bevel) and again the sharp sides are reduced by minimal hammer-dressing. Natural patina at the butt end is similar to the larger adze. AR6921 is 217.5 mm long with a blade 66 mm wide.

Other triangular cross-section adzes or fragments may be more briefly dealt with. Fig. 144 shows a small adze, crudely flaked from a coarse-grained volcanic rock (AR6933). It is polished on the front and bevel only. The blade is badly battered. The remaining length is 92 mm, with a blade width *ca.* 37 mm. AR6979 (Fig. 142) is the 86 mm long butt end of a triangular sectioned rough-out in pale grey Tahanga basalt. AR6960 (Fig. 143) is again a butt only (76 mm long), and like AR6979 is of relatively deep triangular form. Again it is roughed out only, this time of black Tahanga basalt.

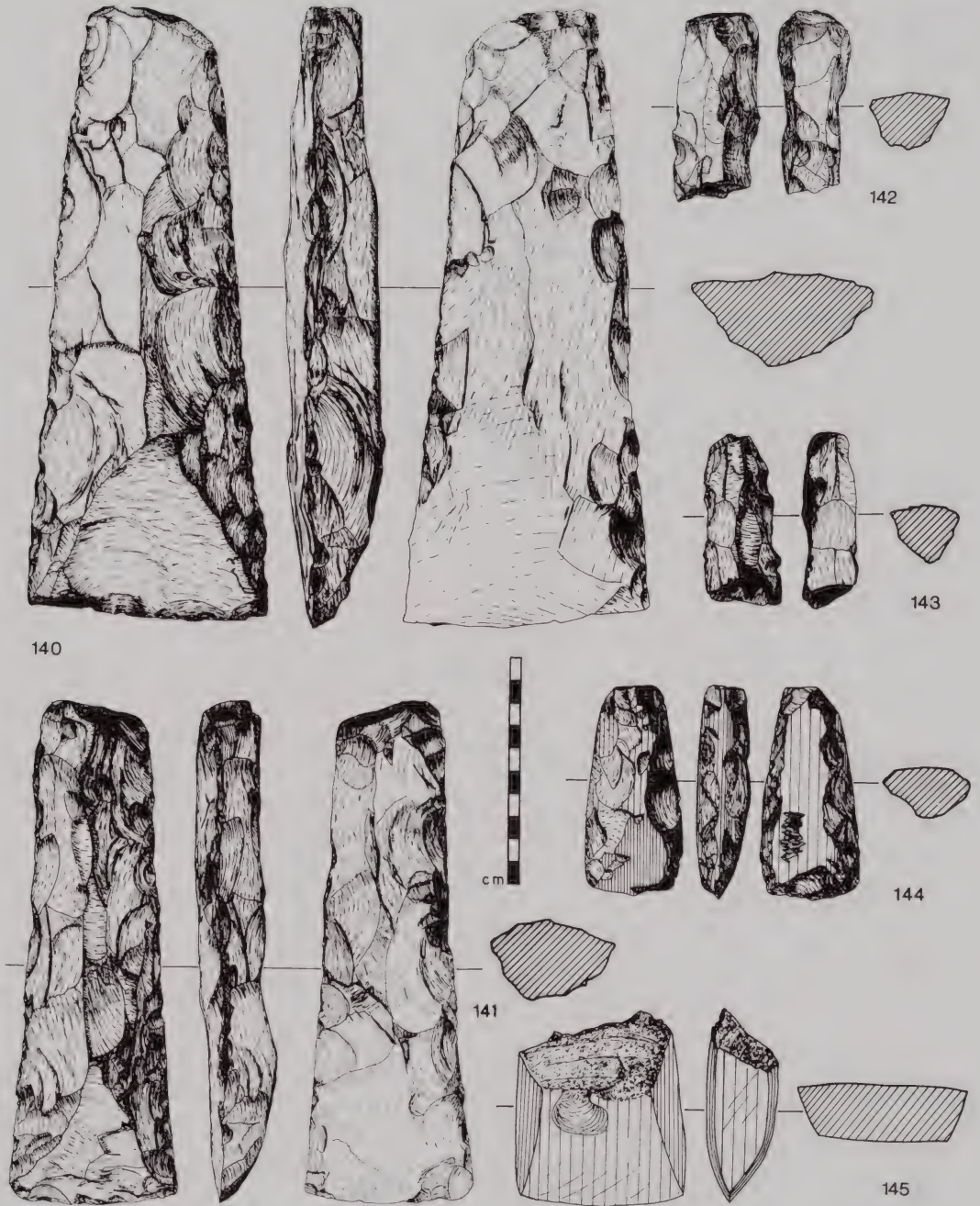
Rectangular adze of early form

The 72 mm wide blade of a well finished rectangular adze, possibly of Duff Type 2A form, is shown in Fig. 145 (AR6934). It is made of high quality green Waiheke Group greywacke. There is no given provenance.

'Hogback' adzes

Duff's (1956:178-180) Type 4A, 'hogback' adze is very characteristic of the early phase of Polynesian settlement in New Zealand. A butt fragment (Fig. 147) was recovered from the Brambley excavation of early 1960, but the only complete example of comparable size does not come from the Matatuahu site.

AR6943 (Fig. 146) Mrs Brambley could only recall having come from "... somewhere on Tipitai farm." This adze has suffered very minor damage at the blade but is otherwise complete. Like the Matatuahu fragment (AR6930, Fig. 147) it is made of fine-grained green Waiheke Group greywacke. It is well finished with a reduced butt



Figs. 140-145. Adzes of triangular and rectangular cross-section, Manukau South Head district. 140-144. Triangular cross-sectioned adzes. 140. AR6942. 141. AR6921. 142. AR6979. 143. AR6960. 144. AR6933. 145. Rectangular cross-sectioned adze blade. AR6934.

and polish concentrated towards the working end. The length is 269 mm, with the narrow chisel blade now broken off being estimated at *ca.* 15 mm width.

Fig. 149 depicts a superb Duff Type 4A adze (AR6916) which Mrs Brambley recalls was found on the beach below the house at Tipitai. The raw material may be a basalt from the north side of Raglan (Whaingaroa) Harbour (D. Bonica, pers. comm.). It is the only item in the Brambley Collection of this characteristic material which is abundant in occupation sites found on the deflating dunes of the north head of Raglan Harbour, and well represented in the Keith Bird Collection, Horea, Raglan North Head. The flat butt end shows the original patina of the rock, giving clues as to the method of manufacture. AR6916 has been polished back to the reduced butt end over skilful flaking. The length is 160 mm and the width of the strongly curved, hollow-ground blade is 19 mm.

The highly polished blade fragment of a Type 4A adze (AR6935) is shown in Fig.148. The Tahanga basalt adze may have been *ca.* 250 mm long to judge from the surviving piece. The blade is 18 mm wide.

Flake adzes

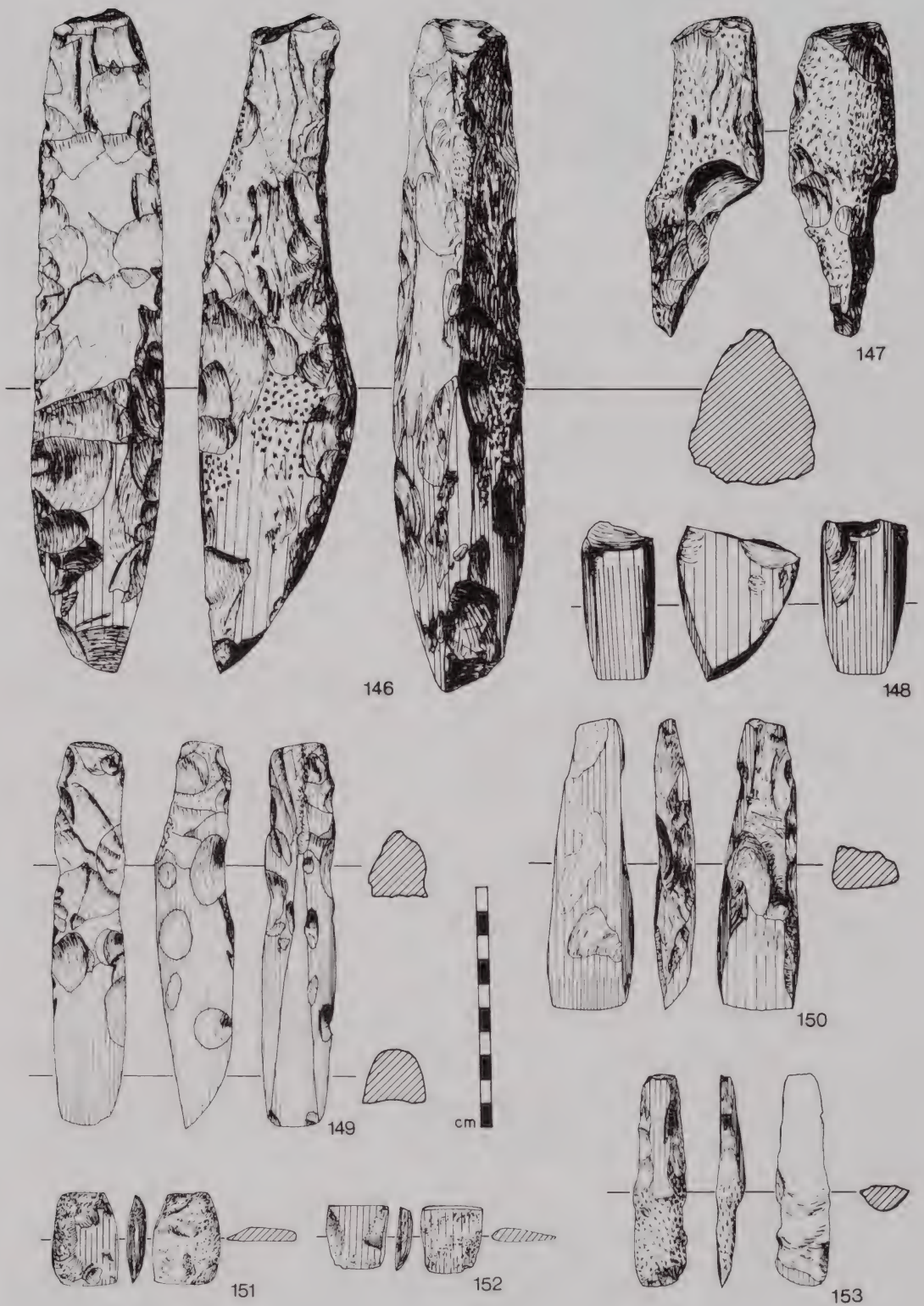
Characteristically flake adzes display some lateral reduction of a suitable stone flake and minimal polish to produce a blade.

AR6925 (Fig.150) is a typical flake adze, made of pale grey Tahanga basalt. Lateral reduction and a well ground bevel and blade do not disguise the flake origin, the curve of which is utilised in the final form. This adze was found near the Tipitai homestead. The length is 121 mm and blade width 29 mm.

Fig.153 illustrates an unusual flake adze (AR6953) which has resulted from damage done to a larger adze, possibly of Type 4A — ‘hogback’ — form. Polish and hammer-dressing display the origin of the flake. The stone is green Waiheke Group greywacke. Minimal polishing on the front and back has produced an effective, slightly curved blade. The length is 88 mm and width of the blade is 16 mm.

A well finished small flake adze is AR7172.9 (Fig.151). This is polished to some degree front and back and down the narrow sides. The minimal bevel creates an effective cutting edge. The measurements of this complete adze are only 39 mm length and 21 mm blade width. The maximum thickness is only 8 mm. It is made of Tahanga basalt. Fig.152 shows the blade end of a similar small adze (AR7172.18) made of black basalt. What survives is 28 mm in length with an 18 mm blade and maximum depth only 6 mm.

Other flake adzes are not illustrated. AR6936 is a crudely prepared argillite rough-out with virtually no polishing visible. Approximately one-quarter of the blade has been broken off. The overall dimensions are 91 x 33 mm. Also in argillite, this time of a green colour, is AR6919. Again this item is only flaked and partially formed. It measures 62 x 26 mm. AR6947, made of black basalt possibly from Tahanga, is 59 x 33



Figs. 146-153. 'Hogback' and flake adzes, Manukau South Head district. 146-149. 'Hogback' adzes. 146. AR6943. 147. AR6930. 148. AR6935. 149. AR6916. 150-153. Flake adzes. 150. AR6925. 151. AR7172.9. 152. AR7172.18. 153. AR6953.

mm in size and has been flaked only and never brought to completion. A well-finished flake adze in pale grey Tahanga basalt is AR6967. The 28 mm blade and steep, well-finished bevel show signs of use; the butt end is missing.

FISHING SINKERS

In the Brambley Collection is a total of 105 fishing sinkers. These include 26 in the 1938 deposit, now held in the Ethnology Department (23901.1-27; although included with sinkers, 23901.18 shows no sign of modification), and 79 in the Archaeology Department collection given by Mrs Brambley in 1981 (AR7030-7050, AR7053-7105, AR7329-7331, AR7402-7403). A further ten sinkers marked 'Wattle Bay', which were transferred to Auckland Museum with the university collection in July 1982 (AR7417: AU260-264, AU521-525), are not included in the following analysis.

Almost all the sinkers are unprovenanced except to the general Awhitu-Manukau South Head shore. Three are specifically located to the Matatuahu site: AR7055 (Fig.169), AR7058 and AR7067 (Fig.166). An unusual item (AR7049) made of a water-rolled white quartz pebble pecked around its long axis Mrs Brambley states was found on the shore just west of the Tipitai homestead.

Most sinkers are made of andesite or basalt ranging from comparatively fine-grained to highly vesicular material. An important group of *ca.* five small sinkers including AR7030 (Fig.160), AR7060 (Fig.168) and AR7067 (Fig.166) are made of consolidated iron sand. Fewer still are made of greywacke and one each are made of quartz and sandstone cobbles. Water-rolled boulders and cobbles of the raw materials are to be found on the shores of the entrance to Manukau Harbour.

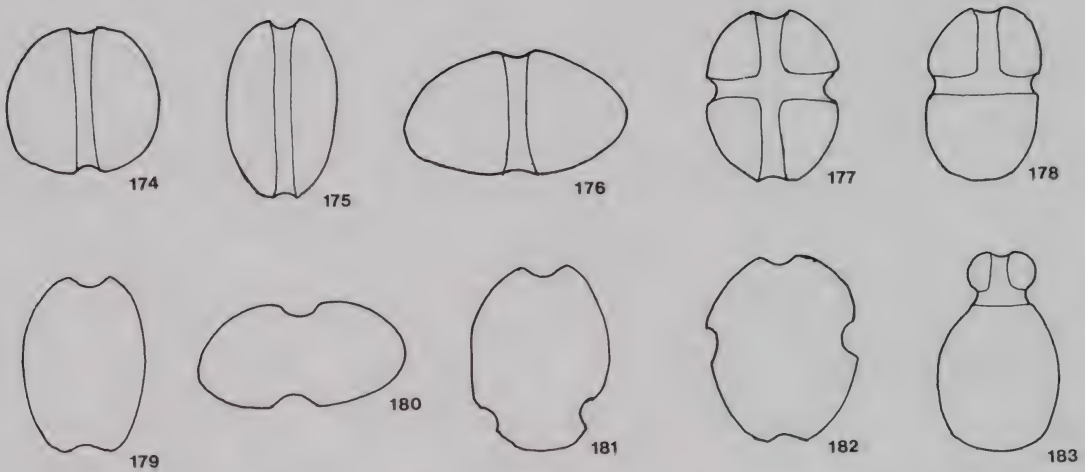
Sinkers come in a wide variety of sizes. The smallest is 68 g and measures no more than 40 mm in its maximum dimension (AR7090; Fig.158), the largest weighs 4.35 kg and measures 189 x 102 mm (AR7036). The preferred shape is a slightly elongate rounded (water-rolled) cobble or stone, usually of flat or relatively flat sides.

A range of sinkers is illustrated in Figs. 154-173. Notable is the beautifully made AR7030 (Fig.160), of consolidated iron sand with a carefully finished groove pecked out around the circumference. It was recovered from a stream bed at the beach a kilometre west of the Matatuahu site. Other sinkers range from comparatively well-prepared examples with a lashing groove around the selected stone to pebbles or stones which have been minimally notched or bruised at two opposite margins to allow the cord a secure hold.

A simple typology may be devised to allow some description of the Brambley Collection sinkers as a whole (Figs.174-183). Sinkers may be notched for tying — with two, three or four notches around the circumference of a comparatively flat water-rolled stone (Figs.179-182; and see Figs.169-173). At its simplest two notches may be at opposite sides of the short or long axis of a characteristically elongate pebble. A groove may extend all or almost all the way around the long or short axis of a stone (Figs.174-176; and see Figs.154-163). Occasionally such grooves may extend around a



Figs. 154-173. Fishing sinkers, Manukau South Head district. 154. AR7081. 155. AR7045. 156. AR7094. 157. AR7059. 158. AR7090. 159. AR7097. 160. AR7030. 161. AR7046. 162. AR7035. 163. AR7062. 164. AR7092. 165. AR7043. 166. AR7067. 167. AR7098. 168. AR7060. 169. AR7055. 170. AR7079. 171. AR7040. 172. AR7050. 173. AR7082.



Figs. 174-183. Brambley Collection fishing sinker forms.

stone both ways (Fig.177; and see Fig.164), or all around one way and part way the other (Fig.178; and see Fig.165). A very different arrangement relies for line attachment on a knob fashioned at one end of the sinker, often improved by a groove for added security (Fig.183; and see Figs.166-168).

Of 29 sinkers pecked or bruised at the margin only, 23 (80%) were designed to hang down the long axis. Similarly, of a total of 72 items which have grooves all or almost all the way around, 48 (67%) are grooved over the long axis and thus were designed again to hang down the long axis. Of the ten identified attachment arrangements as shown in Figs.174-183, 93 sinkers (89% of the total) belong to only four types (Figs.174-176,179).

HOANGA

It is not always clear with casual finds of smooth sandstone blocks or fragments whether the items have actually been used as grinding stones (*hoanga*), or if the smooth finish is natural. Among thirty or more items listed as '*hoanga*' or fragments thereof in the Brambley Collection many may be entirely natural; only half the total give any confidence that they were in fact once used. The raw material is coarse to fine sandstone with rare items of andesite (which, however, fall within the group of doubtful items). Examples are illustrated in Figs.184-194. the only items provenanced to the Matatuahu site (and already introduced above) are AR6989 (Fig.186) and AR6990 (Fig.185).

Perhaps the most distinctive *hoanga* in the collection is AR6996 (Fig.194), found below high tide in the bay Te Rua o Kaiwhare, east of the Matatuahu site. This item is 140 x 120 x 45 mm in size. Evidence of much use is to be seen in the two strongly dished sides of the stone, with grooves or striations across the surfaces. The material is a fine-grained sandstone. A larger *hoanga*, also still intact, is AR6991 (Fig.184). Made of

For cultural reasons, these images have been removed.
Please contact Auckland Museum for more information.

Figs. 184-186. *Hoanga*, Manukau South Head district. 184. AR6991. 185.
AR6990. 186. AR6989.

similar fine-grained sandstone to the previous item, this *hoanga* has two slightly dished surfaces (visible left and top in the illustration) which provide evidence of use. Mrs Brambley recalls that this grindstone may have been found at Tarataua or Te Rua o Kaiwhare.

Other illustrated *hoanga* are made mostly of fine-grained soft sandstone: AR6993 (Fig.188), AR6997 (Fig.189) and AR6998 (Fig.191) all display grooves and dished surfaces which result from polishing and sharpening activity. Other items of coarser sandstone are AR7002 (Fig.187) and AR7006 (Fig.192). Another comparatively coarse piece of grey stone has small round pebble inclusions (AR7003; Fig.190). A slightly concave polishing surface is visible on one side. This item is broken off the corner of a larger original *hoanga*. Very similar, but not shown is AR6992. The remaining illustrated piece is AR6986 (Fig.193) which has broken off a large piece and which may have had three sides used for polishing.

The range of *hoanga* in the Brambley Collection suggests grinding and polishing of stone surfaces for adzes, chisels and patu, the sharpening of adze and chisel blades, and the shaping of bone and stone artefacts. Smaller items would have been hand-held for working.

Although apparently collected as *hoanga*, material not illustrated seldom displays evidence of actually having been used as such: suitable raw material and the presence of flat surfaces are on their own insufficient evidence (AR6984-85, AR6987-88, AR6990, AR6992, AR6994-5, AR6999, AR7001 and AR7004-5). A further fifteen small fragments of *hoanga*, including *ca.* ten with parts of polishing or grinding facets, are catalogued with files under AR7173.

PATU

A highly polished blade fragment of a patu (AR7172.1) is made of a relatively coarse-grained green Waiheke Group greywacke. The width is 85 mm and maximum thickness is 20.5 mm.

MISCELLANEOUS STONE MATERIAL

Nephrite

In addition to the fragmentary nephrite material recovered from the Matatuahu site there are other nephrite pieces in the Brambley Collection. A triangular piece 3 mm thick and *ca.* 25 mm in length on each of the three sides has been broken from an adze blade and since polished on the broken face to form a tiny but serviceable blade (AR7176). Mrs Brambley states that this item was found on the east side of Tarataua. AR7175 is a 19 mm long section of chisel (or pendant?), 14 mm wide and 6 mm deep, of rounded rectangular cross-section rendered in dark green nephrite. AR6917 is the greater part of a small gouge, missing only some blade and an unknown but limited amount from the butt. What remains is 45 mm long; the almost circular cross-section is 11 mm in diameter. The stone is deep green/black nephrite.

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Figs. 187-194. *Hoanga*, Manukau South Head district. 187. AR7002. 188, AR6993.
189. AR6997. 190. AR7003. 191. AR6998. 192. AR7006. 193. AR6986. 194.
AR6996.

Serpentine

An important item is a fragment of dark green serpentine, much of it highly polished (AR7177). The piece is 42 x 20 x 9 mm in size with polished surfaces suggesting an originally sub-triangular cross-section 20 mm across the base. The item from which this fragment has been broken may thus have been a large minnow-lure shank, or possibly an ornament — certainly it would have been too soft for use as an adze or chisel.

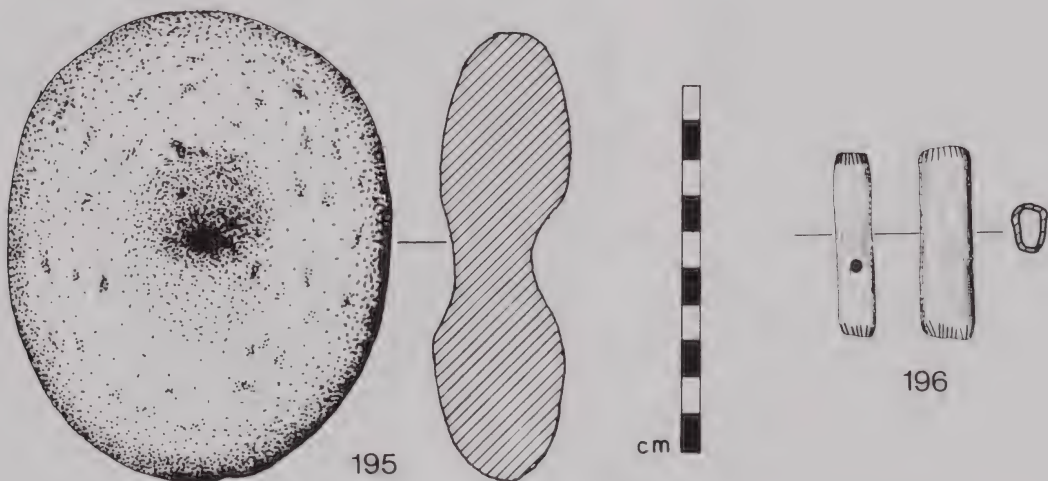
Serpentine from the Nelson region, is the common raw material for stone pendants of archaic form. The only other item made of serpentine in the Brambley Collection is the twin-lobed pendant (AR7000, Fig.29) provenanced to the Matatuahu site — which may well have been the source of AR7177 as well.

Item of unknown use.

Fig. 195 depicts a flat water-rolled stone with shallow holes formed each side by hammering the coarse gritty basalt (AR7009). On one side there are traces of *kokowai*. In places on the narrow edge are signs of use as a hammerstone — which may also account for the holes on the sides. Alternatively this unusual item may itself be an object in the course of manufacture. Mrs Brambley states that this artefact was found at Te Rua o Kaiwhare.

TOGGLE

A well-made bone toggle was found on the beach below the house at Tipitai (AR7259; Fig.196). It is 52 mm long with a flat oval cross-section, 14 x 11 mm, and is



Figs. 195,196. Miscellaneous items, Manukau South Head district. 195. Artefact of unknown use. AR7009. 196. Toggle. AR7259.

made of a section of albatross or mollymawk wingbone. Notches provide decoration around both ends. This item probably relates to the nineteenth century Tipitai kainga.

EUROPEAN MATERIAL

Without exception material of European manufacture came into the Auckland Museum in 1981 with the main part of the Brambley Collection. It includes bullets, gunflints, coloured beads, clay pipe fragments, a cut nail and the head of a small hatchet. Mrs Brambley has recalled that the gunflints, beads, and clay pipe pieces came from the foreshore below the Tipitai homestead, the hatchet head from the cowyard at Tipitai and the bullets from Tarataua.

Clay pipes

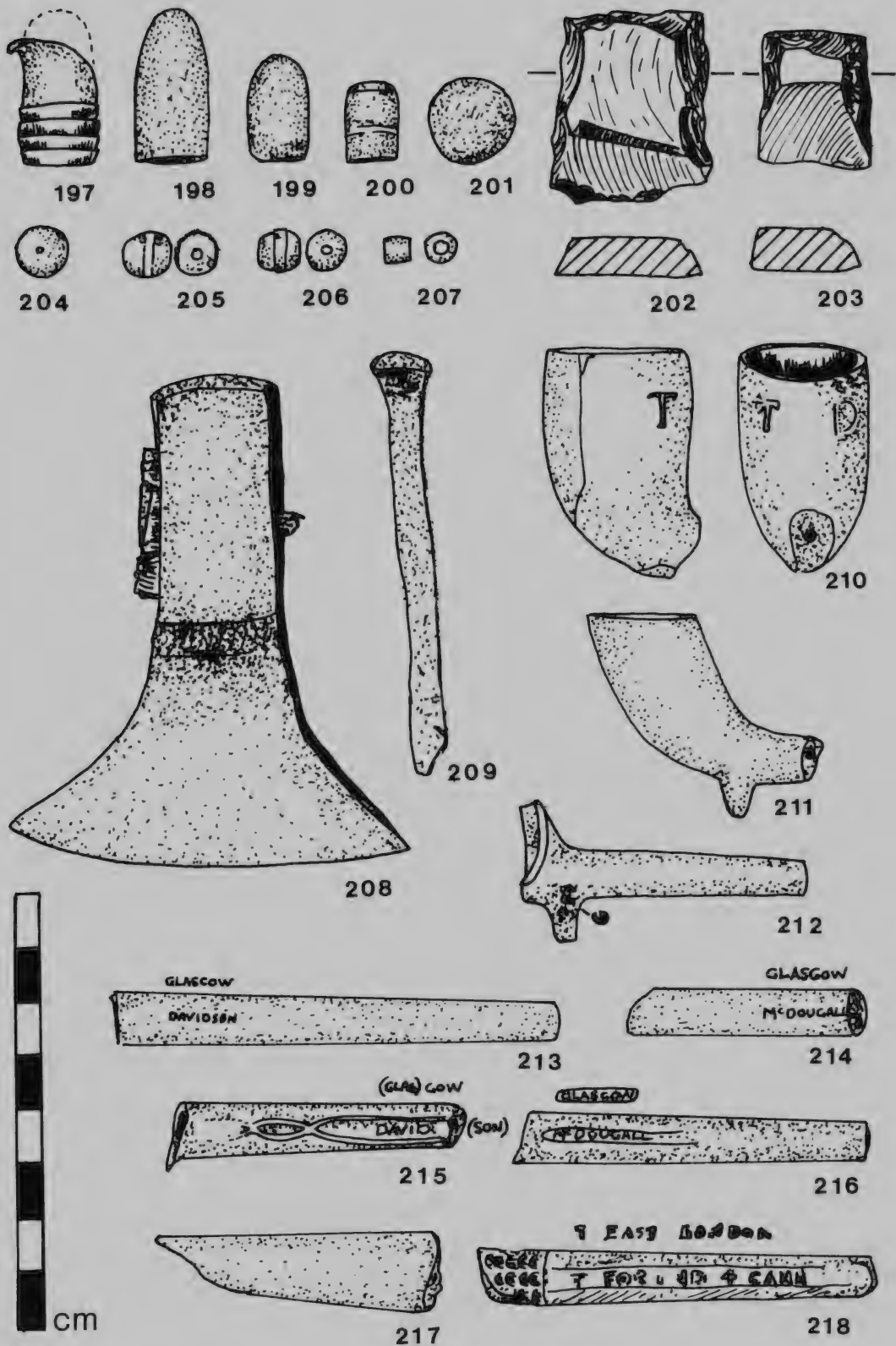
Two clay pipe bowls and 18 stem sherds (AR7210-7229) weigh a total of 117 g. The bowls include an embossed 'TD' (AR7222, Fig.210) possibly made by Thomas Davidson and Company of Glasgow, and a smaller unmarked bowl with spur (AR7210, Fig.211). One stem sherd includes an embossed spur (AR7225, Fig.212). There is also an unmarked stem sherd with a splash of glaze at the grip end (AR7214), and a piece of exceptionally heavy stem (AR7221, Fig.217).

Among stem sherds are represented two Glasgow manufacturers, Davidson and McDougall, and T. Ford of London. Two Davidson stems (AR7218 and AR7224) are of different designs (Figs. 213,215). Three McDougall stems again have two different marks (AR7215, Fig.214, and AR7219; and AR7213, Fig.216). Duncan McDougall began making pipes in 1846, the firm continuing in production until 1967. Thomas Davidson's Caledonian pipeworks was in business from 1863 to 1910 (Oswald 1975:205).

The London maker, Ford, is apparently unrepresented in other New Zealand archaeological collections. A highly decorated stem is embossed 'T. FORD. No. 4(1.?) CANN(ON ST)/(T?) EAST LONDON' (AR7212, Fig.218). Atkinson & Oswald (1969) list T.F. Ford as operating from Cannon Street in the years 1836-53.

Ammunition

Ten lead bullets (AR7200-7209) include a range of ammunition of the middle years of the nineteenth century. There are two pistol bullets, both of them *ca.* 10 mm in diameter. One weighs 10.8 g and has a hollow nose and two cannellures (AR7209), while the other weighs 13.3 g (AR7203, Fig.200). Two balls are both 16.5 mm in diameter: one, 26.0 g (AR7200, Fig.201), the other, 22.9 g (AR7201). One .577 Enfield (1853 Pattern) bullet has clearly been fired (AR7204). Two Type 5 Snider bullets (with three cannellures) date from the late 1860s introduction of the Snider breech loading conversion of the Enfield (AR7208, Fig.197, and AR7206). Two conical bullets of *ca.* 13.5 mm diameter, weigh 24.2 g (AR7207, Fig.199) and 32.5 g (AR7202, Fig.198) respectively. A single bullet of *ca.* 11.2 mm diameter and 28.9 g is mushroomed through impact (AR7205).



Figs. 197-218. Items of European manufacture, Manukau South Head district. 197-201. Ammunition. 197. AR7208. 198. AR7202. 199. AR7207. 200. AR7203. 201. AR7200. 202,203. Gunflints. 202. AR7190. 203. AR7192. 204-207. Trade beads. AR7198. 208. Axe head. AR7197. 209. Spike nail. AR7199. 210-218. Clay pipe material. 210. AR7222. 211. AR7210. 212. AR7225. 213. AR7218. 214. AR7215. 215. AR7224. 216. AR7213. 217. AR7221. 218. AR7212.

Gunflints

Eight gunflints (AR7189-7196) were probably made at Brandon, Suffolk, in England; illustrated are AR7190, Fig.202, and AR7192, Fig.203). In the first half of the nineteenth century the old flint-lock musket was gradually replaced by a percussion-lock weapon with percussion cap enclosing the igniting powder. The last sale of gunflints to the British army was made in 1838. In New Zealand, flint-lock weapons from which the gunflints found on the Tipitai foreshore could have come were still in use in the second half of the nineteenth century.

Trade beads

Thirteen trade beads include seven different types (AR7198). Five brown beads have a raised belt around the centre (Fig.206). Two red examples might have come from the same mould. Two slightly larger pale blue opaque beads have the same basic shape (Fig.205). A larger translucent glass bead has a tiny perforation (Fig.204). A deep blue cylindrical bead is the only one in the collection not of the spherical shape (Fig.207). Two orange beads include a plain example of dull finish the same size as the common brown type and one smaller example of shiny finish with the raised belt around the centre.

Iron

A hatchet head (AR7197, Fig.208) and three-inch (75 mm) cut nail (AR7199, Fig.209) complete the European material.

DISCUSSION

THE GEOGRAPHICAL SETTING

Manukau Harbour (see Fig.1) is the second largest of a series of eight drowned river valley harbours strung along the northern half of the west coast of the North Island of New Zealand. Its area is 340 km², of which 145 km² is exposed mudflat at low tide (Auckland Harbour Board 1978 II:91). The harbour opens to the sea by way of a 2 km wide, 30 m deep channel which cuts between two blocks of high country lying along the west coast (Figs.219,220). Shifting sand bars and shoals extend 5 km offshore from the harbour mouth.

North-east of the harbour the Tamaki Isthmus is the narrowest part of the North Island. On the other side of the isthmus is the Waitemata Harbour which opens to the sheltered waters of Hauraki Gulf. Manukau Harbour thus makes up part of the easiest route between the east and west coasts. Until land transport was developed in the present century, this east-west route with canoe portage was of the utmost importance in travel, transport and communication.



Fig. 219. Manukau Harbour entrance looking east with the harbour beyond. The South Head cliffs can be seen upper right with the collection area to the left. In the foreground is the Whatipu sand flat which has been built up since the mid-nineteenth century.

Photo: Whites Aviation

Inland of Manukau Harbour are fertile lowlands of volcanically derived soils. To the south-west these include the rich loams of the Pukekohe district and surrounding region. Younger volcanic soils to the north, including the Tamaki Isthmus, were highly suited to Polynesian cultivation techniques. Throughout the northern part of these lowlands are volcanic cones, explosion craters and lava fields which today provide the most characteristic features of the natural landscape of the Auckland urban area.

Between Manukau Harbour and the open west coast is the 150-300 m high sandstone ridge of the Awhitu Peninsula. Sheltered gullies along the harbour side of the peninsula provide limited areas of fertile soils for gardening and excellent locations for settlement. North of the harbour entrance is the rugged Waitakere Range which rises to almost 500 m above sea level.

Manukau Harbour itself is a rich biological resource, and was undoubtedly richer in the past before environmental pollution and over-exploitation of the European period. The most numerous fish taken commercially today are flounder (*Rhombosolea plebeia* and *R. leporina*) and grey mullet (*Mugil cephalus*). Also taken



Fig. 220. Manukau Harbour entrance looking west. Left foreground is Te Rua o Kaiwhare and Te Pirau Point, with the beach in front of the Matatuahu site just visible immediately beyond.

Photo: Whites Aviation

are sharks (mostly dogfish) and rays, trevally (*Caranx lutescens*), snapper (*Chrysophrys auratus*), kahawai (*Arripis trutta*), parore (*Girella tricuspidata*), yellow-eyed mullet (*Aldrichetta forsteri*) and tarakihi (*Cheilodactylus macropterus*) (Auckland Harbour Board 1978 II:63). While this is unlikely to match pre-European productivity, it does indicate the variety of species which may have been available in the past. Shellfish commonly taken today are pipi (*Paphies australe*), pupu (*Amphibola crenata*) and cockles (*Chione stutchburyi*) from soft shores, scallops (*Pecten novaezelandiae*) from the extensive sand banks of the central harbour, and green mussels (*Perna canaliculus*) and kina (*Evechinus chloroticus*) from the rocky shores of the harbour entrance.

Most land surrounding Manukau Harbour is now being farmed. The Awhitu Peninsula is under grass for livestock farming, with small patches of native bush surviving in places and extensive dune areas in parts exposed to the west. The rich soils of the Manukau lowlands are used for dairy farming and, increasingly, horticulture. Clark (1983:252) describes briefly the early nineteenth century vegetation of the districts south-west of the harbour, where fern and manuka along the shore was backed by dense forest dominated by kahikatea and tawa. The urban area of greater

Auckland now covers Tamaki Isthmus and much of the north-west side of the harbour, as well as extending into the bush of the Waitakere Range. The isthmus itself was under fern and scrub in the early nineteenth century, while the rich natural and historic landscape focussed on the volcanic cones has since suffered enormous damage through quarrying and urban growth. After extensive kauri milling of the nineteenth century the steep faces of the Waitakere Range which lie above the entrance to Manukau Harbour are now rapidly regenerating into kauri and other forest.

The immediate setting of the farm and foreshore where the Brambley Collection was made is dominated by the narrow outlet of the harbour and the high hills behind (Figs.219,220). At Wattle Bay itself there is an extensive beach and tidal area backed by flat ground which extends to the south and west up steep-sided gullies. Westwards the country is so steep that road access to Tipitai uses the beach, and then only at low tide. Above the shore the hills rise steeply — precipitously in places — to the Manukau Heads trig station at 285 m above sea level. Several small gullies rise sharply to the west and south-west.

Along the shore are the prominent points of Tarataua (Cake Island) and Te Pirau Point (see Figs.2,220). Sandy beaches connect these points and allow the latter to be rounded on foot at low tide. Tarataua Point is connected to the mainland by a narrow isthmus. East of Tarataua is a broad inter-tidal flat exposed at low tide; west is a shelving sandy beach.

To the extent that it is known, late ('Classic Maori') material and objects of European manufacture come mostly from the western part of Wattle Bay. Some items were found on the broad inter-tidal flat in front of Tipitai homestead itself. The narrow homestead gully mouth was occupied in the early 1840s by a small Maori settlement from which the Brambley farm took its name (Fig.221). At the mouth of the much larger gully where the road now ends was the nineteenth century Maori settlement of Awhitu. A large part of the material from the Wattle Bay beach doubtless originates from the nineteenth century and earlier settlements at Tipitai and Awhitu (see Fig.2).

MATATUAHU: THE LOCATION

The Matatuahu site is located at the base of a 20-40 m high sand dune which rises up the steep hill face west of Te Pirau Point (Figs.222,223; see also Fig.2). Clearly there was once a sand flat here which extended some distance off the present shore. Mrs Brambley recalls a small part of this area surviving as low dunes when she first visited the place. Coulthard (1963:opp. p.144) depicts a bare sand flat at the foot of the high dune in 1906, apparently much more extensive than that which exists today. Almost all the material collected from the site has been found on the beach, mostly after spring tides and stormy weather has resulted in active erosion at the base of the dune.

A traditional story of the adjacent bay Te Rua o Kaiwhare tells of the destruction of all flat land in the bay back to the steep hillside and cliffs in a single great storm. The calamity was put down to a *taniwha* named Kaiwhare or "eater of houses" (Coulthard 1963:145-146). The vanished land was probably only part of an extensive sand flat

For cultural reasons, this image has been removed.
Please contact Auckland Museum for more information.

Fig. 221. "Native Settlement Tipitai Manukao Hr New Zealand Xmas 1843",
Edward Ashworth.

Alexander Turnbull Library

along the southern shore of the Manukau Harbour entrance. Destruction of the Matatuahu site may not have occurred overnight but it has been no less complete.

Seaward of Manukau South Head there once existed an even more extensive sand flat. The vanished land of Paorae is said to have stood nearly 6 km out to sea and extended south to the mouth of the Waikato River (Diamond & Hayward 1979:28-29). The destruction of Paorae by the sea was completed only this century; as recently as the First World War cattle were run on a 100 acre 'island' which stood off the cliffs below South Head. Since the mid-nineteenth century an equivalent sand flat has formed off Whatipu at the north side of the harbour entrance (Fig.219).

Paorae and the lost land along the southern shore of the harbour entrance help make sense of the location of the Matatuahu site, now isolated between steep hills and

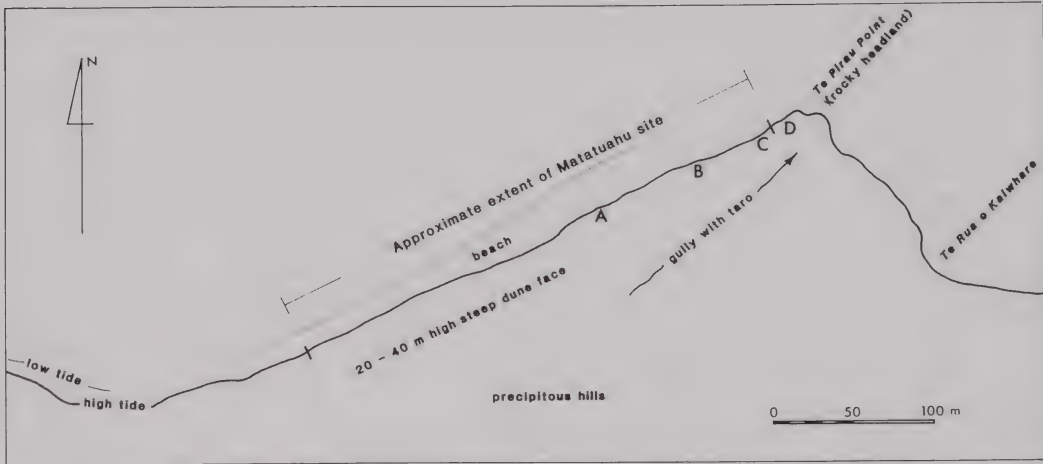


Fig. 222. Sketch map of Matatuahu site. A. Approximate location of University excavation, November 1960. B. Approximate location of Brambley excavations. C. Twin-lobed pendant find spot. D. Waterfall (fresh water).



Fig. 223. Matatuahu site at foot of dune face. Te Pirau Point can be seen at the far (east) end of site with Puponga Point on the north side of Manukau Harbour in the distance.

the sea. There may once have been a large flat area adjacent to the site of light sandy soil ideally suited to kumara and other cultivation. Indeed, there may have been more settlements like 'Matatuahu' on the extensive lands here which are now lost to storms, tides and changing currents.

At Matatuahu fresh water has probably always been obtainable from a waterfall which comes off the low cliff at Te Pirau Point. The gully behind the dune face is now filled with wild taro (*Colocasia esculenta*).

When Percy Smith surveyed the Awhitu/Tipitai district in February 1864, he marked the "Te Rua o Kaiwhare Burial Ground" extending from a point ('Kutete') half-way along the beach backed by the Matatuahu site to Te Rua o Kaiwhare itself (Smith 1865). This burial ground is marked in subsequent cadastral and other maps of the district.

Mrs Brambley states that there was a Maori burial ground at Te Rua o Kaiwhare where there were also some burials of victims of the February 1863 wreck of H.M.S. *Orpheus*, and that these were all washed away in the course of one of the episodes of destruction of the sand flat there. Coulthard (1963:opp. p.144) depicts a human skull on the sand flat ('Kuru-Tete') before the Matatuahu site. It cannot now be certain whether this is from a Maori burial or if it is one of many unrecovered victims of the *Orpheus* disaster.

The only human bones which Mrs Brambley recalls being associated with the Matatuahu site are a skull and some post-cranial material which eroded from the dune near the east end of the site to be brought to the Brambleys' attention by a passing fisherman. There is no human bone in the Brambley Collection.

MATATUAHU: THE ARCHAEOLOGY

The Matatuahu site extends from where the sand dune face ends a few metres short of Te Pirau Point, approximately 320 m westwards towards South Head. In the past, two New Zealand Archaeological Association site record numbers have been assigned to the site: N46-47/17 for the Brambley excavation area and N46-47/16 for the University of Auckland Archaeological Society excavation (see Fig.222). There is, however, no reason to suppose that more than one site is involved. From her experience of the site Mrs Brambley describes an occupation layer which dips westwards so that it is scarcely above the high tide mark at the west of the beach. Fig.222 shows the approximate location of the Brambley and university excavations.

The first published reference to the Matatuahu site is included in Jolly's 1960 note, "Evidence of Archaic occupation along Auckland west coast." In it Jolly draws attention to archaic material, notably adzes, moa bone and a harpoon point, from the area between the Waikato and Manukau Heads. Although he does not give the actual site or its location it is Matatuahu which is being referred to. Jolly goes on to suggest that other such early sites may be found in the Raglan and Kawhia districts.

The November 1960 university excavation took place over one weekend. The steeply rising dune face above the remains of the site greatly reduced the amount of work which could be carried out. An area of 30 x 8 feet (9.14 x 2.44 m) was excavated (Ambrose 1961:86). Figs. 224 and 225 illustrate the excavation and its location. In addition to the results described by Ambrose, Janet Davidson has recalled to the author that a large amount of fishbone was found in the excavated area, none of which was kept, and that some moa bone was also found.

In his report Ambrose (1961:85-86) describes three separate groups of material. Fragments of charcoal and obsidian and a “. . . small vesicular stone abraded in honing” were found in dune overburden above the actual cultural layers, apparently having been redeposited from higher up the dune face.

Two *in situ* cultural layers were found. The upper layer is described as (Ambrose 1961:86) as follows:

“The interface between the dune and the underlying deposits defined an undulating, slightly off-level surface representing the last preserved evidence of human occupation at the site. The only evidence of any structural remains was in the form of two shallow post holes. The excavated area, gridded for recording, measuring 30ft. [9.14 m] along the beach front and 8ft. [2.44 m] back, displayed a sparse scattering of cultural evidence at this topmost level. The varied material included the badly preserved bones of an individual animal, possibly dog. In a confined 18” [460 mm] square sixty crop stones were found, while in other parts many chert and obsidian flakes, drill points, an adze roughout, a fishhook blank and a nicely polished chisel were recovered.”

Below this upper occupation layer was a discontinuous layer of relatively sterile sand probably representing incipient dune formation. Below the sand was another layer.

“The lowermost layer was typified by rich carbonaceous deposits and rested with a sharp division on a sterile natural substratum at a horizon only a couple of feet above high spring tide level. A fragment of polished adze, part of a sandstone file, several stone flakes and a drill point were all that was recovered from this layer.”

The prospect of there having been two distinct occupation levels in the Matatuahu site is difficult to resolve. It is probably safest to regard the site as being of one occupation period, whether or not there is more than one cultural layer at any part of it. Certainly, the material recovered from the site which takes up a large part of this report can only be treated as a single assemblage. An example of the Matatuahu occupation layer, probably near the east end of the site, can be seen in Fig. 226. A 10-25 cm deep deposit of shell and charcoal is overlaid by a thin black layer.

During a March 1982 visit to the site by the author in company with Messrs R.G.W. Jolly and Jim Brambley (son of the donor) the toe of the dune was cut back at a point *ca.* 45 m from the east end of the site to locate the occupation layer. Here the cultural layer proved to be *ca.* 1.7 m above the rear of the beach and consisted mostly of shell as much as 10 cm deep. This was composed principally of highly compacted



Figs. 224-225. November 1960 University of Auckland Archaeological Society excavations at Matatuahu site. 224. View west towards Manukau Heads. 225. View east showing dune face and overburden.

fragmentary mussel (*Perna canaliculus*) and some cockle shell, with rare paua, *Turbo smaragdus* and pipi. Fishbone, charcoal and oven stones were also present. Where the shell ended a thin black layer continued the occupation surface.

MATATUAHU: THE HISTORICAL AND REGIONAL CONTEXT

The Matatuahu material in the Brambley Collection comprises what is without doubt the most notable archaic assemblage of the Auckland region. In terms of the quantity and variety of early stone tools in particular, the assemblage is only surpassed by the great rivermouth settlement sites of the South Island. Indeed, the archaic material in the collection as a whole compares much more closely with that of South Island sites and collections than it does with North Island sites, especially those north of the Cook Strait region.

Three years after the university excavation Green (1963:52-53) included the Matatuahu site in the 'Development Phase' (ca. 1100-1350) of his Auckland Province cultural sequence. Davidson (1982:35) suggests that the site may date from earlier than 1300 A.D. This conclusion regarding the date of occupation is based upon the artefact



Fig. 226. Matatuahu site showing shell lense beneath black living surface. Photograph probably taken in 1960.

Photo: R.G.W. Jolly

assemblage. Seven finely finished chisels of early form, three side-hafted adzes, rectangular and lenticular cross-sectioned, and 'hogback' and 'Samoan' type adzes are all located to the Matatuahu site and all are strongly archaic in style. Other adzes and chisels, while not securely located, may also come from the site, or from the nearby foreshore, and probably relate to the Matatuahu occupation. Other characteristically archaic items include the twin-lobed pendant, harpoon, and one-piece fishhooks in moa and sea-mammal bone. The files, drillpoints and hammerstones are also more typically, though not exclusively, found in archaic contexts than in later sites.

Dating evidence for the Matatuahu site provided by the presence of moa bone needs to be treated with caution. As has been argued above, moa bone seems likely to have been sub-fossil material brought to the site for industrial purposes and not the result of hunting moa for food.

Some of the wide range of stone material is itself suggestive of an early date of occupation. Metasomatised argillite from the Nelson district (see Fig.227) was the pre-eminent raw material for adzes and chisels in the early period; it is strongly represented in the Matatuahu assemblage, especially among chisels where four of seven items are made of black stone from Mt Ears, D'Urville Island, and a fifth is of material from the other easily identifiable D'Urville Island source at Ohana. A second Nelson stone to be represented is serpentine, the use of which is almost entirely confined to pendants of archaic style such as the Matatuahu twin-lobed pendant (Fig.29).

Basalt from Tahanga near Opito Bay on the east coast of the Coromandel Peninsula is also commonly associated with tools of early styles. In the Matatuahu assemblage it is represented by a chisel and side-hafted adze, five rectangular cross-sectioned adzes and *ca.* 18 other less distinctive items and fragments. In addition there are two important triangular cross-sectioned adzes in the collection which are not located to the N46-47/17 site. the 'hogback' chisel from the foreshore at Tipitai may originate from a locally important basalt source near Raglan and is significant as the most northerly example of this little known raw material thus far identified.

The third important raw material for adzes and chisels in the Matatuahu assemblage is Waiheke Group greywacke (Schofield 1967). Among items from the site are a finely-flaked chisel, two side-hafted adzes, a lenticular cross-sectioned adze and a fragment of a large 'hogback' adze. In the remainder of the collection is a second 'hogback' adze, a fragment of a rectangular cross-sectioned adze of early form and as many as 13 Duff Type 2B adzes.

Waiheke Group greywacke provided stone craftsmen of the Auckland/Hauraki Gulf region with a high quality raw material for tool making. The flaking quality of the stone appears superior to that of the better known Tahanga basalt, also a regionally important raw material for adzes of early forms. Waiheke Group greywackes are found from Rakino Island (north of Motutapu), southwards on other islands of the inner Hauraki Gulf and on the mainland along the eastern side of the Firth of Thames. While most material used for adze-making is green in colour, grey stone is not unknown. The quality ranges from a very even fine-grained material to coarser stone

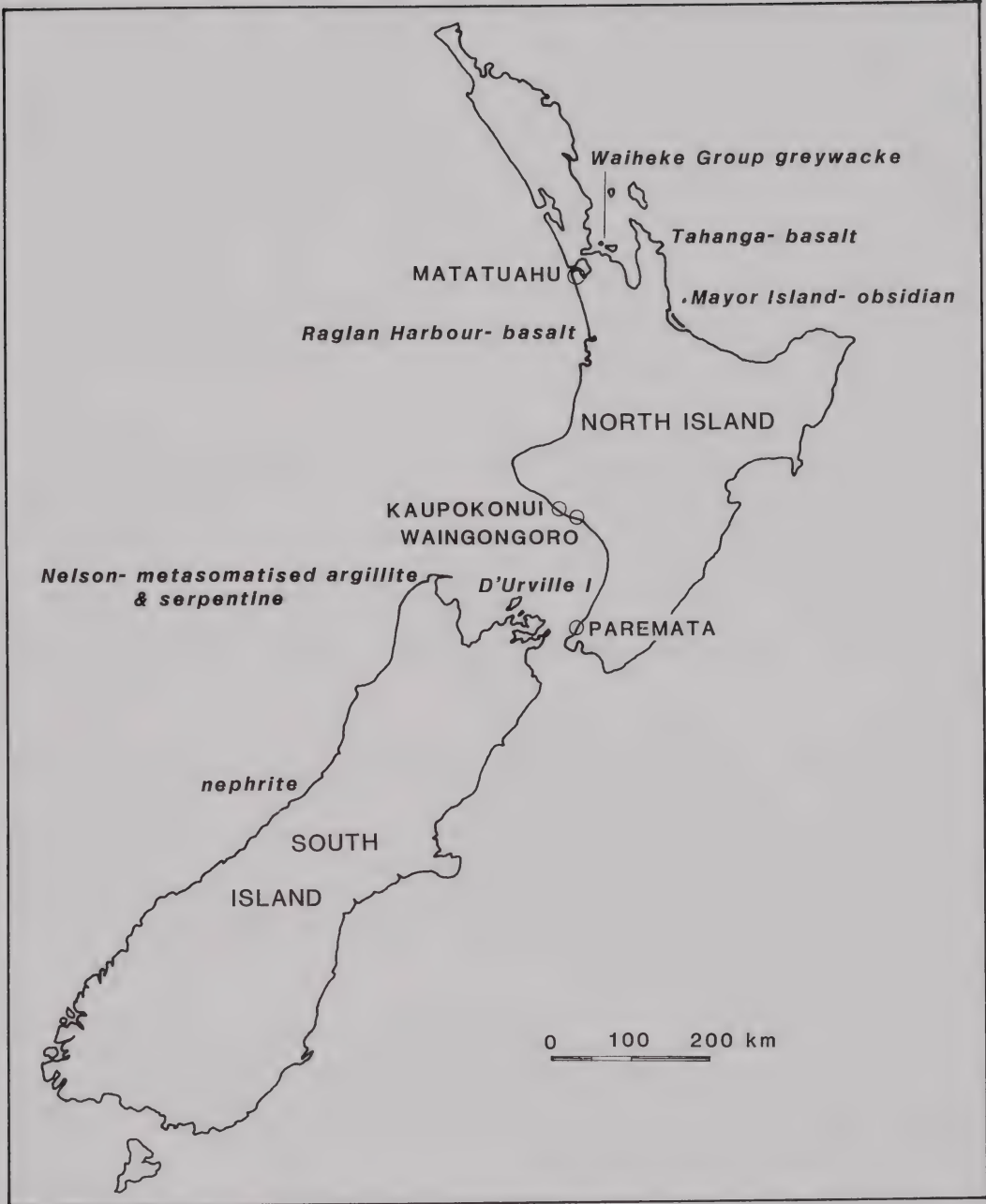


Fig. 227. Map of New Zealand showing sources of stone material in the Matatuahu assemblage and location of other major archaic sites on North Island west coast.

which is less amenable to accurate flaking. The material was worked not just at source locations, but at other settlement sites in the region as well — N46-47/17 provides an example. While Waiheke Group greywacke, Tahanga basalt and Nelson argillites have similar importance in the group of early adzes and chisels located to the Matatuahu site, it is notable that Waiheke Group greywacke is pre-eminent among later forms of unlocalised material (see Table 4).

Among obsidian from the Matatuahu site 81% is green in transmitted light and almost certainly from the Mayor Island, Bay of Plenty, source (Fig.227). Other grey material may come from a variety of source areas including Coromandel and Great Barrier Island, Taupo and Northland. Fragments of nephrite have come from the South Island, possibly the Taramakau/Arahura River district on the West Coast (Fig.227).

Matatuahu is an example of an important site type about which much remains to be learnt. It is a commonly held wisdom that most early sites are on the east coast of New Zealand. Only rarely are sites reported from the west coast which relate in their artefact assemblage or by C14 dating to the early phase of Polynesian settlement of New Zealand. It could be argued, however, that the west coast may have been just as important in the exploration and early settlement period but that for a number of reasons this is yet to be fully recognised. The loss of early sites may be greater on the west coast than on the east: on the North Island west coast prevailing westerlies have eroded the soft, young rocks of much of the coastline and elsewhere have built active dune systems, thus destroying some, possibly many, early sites. In addition there is an apparent willingness of archaeologists to add a few hundred years to most early dates obtained from east coast sites to arrive at a general settlement date for that coast of *ca.* 1000 B.P., (*ca.* tenth century A.D.). This results at least partly from a feeling that with a large number of sites now radiocarbon dated to 6-800 years B.P. there must be earlier occupation for this extent of settlement to have become established. The very few early sites on the west coast do not lend themselves to this kind of argument.

Among other notable west coast sites are the south Taranaki moa-hunting settlements at Kaupokonui and Waingongoro River mouths (Fig.227). These are very different in character from Matatuahu since they are most notable for their abundance of extinct bird bone. On present evidence the Taranaki sites, which almost certainly mark the first entry of man into the region, date from the thirteenth or fourteenth century (Prickett 1983:299). Another early west coast site is Paremata from which several moa species and other extinct birds have been identified (Davidson 1978:215-216). A fifteenth century radiocarbon date from the site is rejected by Davidson (1978:214); the date of first occupation may not differ greatly from that of the south Taranaki sites. Notwithstanding losses there are undoubtedly many other early settlement sites along the west coast of the North Island. At Raglan North Head, for example, artefacts collected from rapidly eroding sites in mobile dunes are strongly suggestive of early occupation. The Waikato coast and, indeed much of the remainder of the North Island west coast, will almost certainly repay a close search for early sites. Existing museum material may serve to give the search some direction.

Acknowledgements. My foremost acknowledgement is to Mrs Mavis Brambley and the late Mr Bill Brambley for their generous gift to the Auckland Institute and Museum on which this account is based. Mrs Brambley has spent much time at home and in the museum recalling the circumstances of discovery and the provenance of many individual items and has been helpful and interested throughout the production of this report.

Archaeologists who have had an interest in the collection before it came into the museum include Jack Golson, Wal Ambrose, David Simmons, Bob Jolly and Garry Law. In addition to their early attempt to catalogue some items in the collection, Golson and Ambrose were responsible for the University of Auckland Archaeological Society excavation at the Matatuahu site in November 1960. Simmons very sensibly noted provenances directly on many of the items. Jolly and Law prepared the admirable 1977-78 catalogue of the collection.

Bob Jolly was also responsible for the first drawing the attention of the archaeological community to the Brambley Collection and the 'Manakau South Head' site. In recent years he has kept before me my commitment to writing up the collection for the museum *Records* and has contributed photographs of the site. Other archaeologists who have helped are Anne Leahy who has shared her photographs of the Matatuahu site and Janet Davidson who recalled what she could of the university excavation.

There have been two major contributions to the analysis of the collection and its preparation for publication. Brett Peacock catalogued the material into the Archaeology Department collection and is responsible for almost all of the excellent artefact drawings. Kath Prickett identified all the stone material, often to greater detail than I have been able to do justice in this account.

Other assistance with analysis was provided by Phil Millener (moa bone), Michael Taylor (dog and sea mammal bone), Reg Nichol (fish bone) and Wynne Spring-Rice (ammunition). Simon Best helped by alerting me to the wide range of Tahanga basalt in hand specimen appearance. Dante Bonica has been invaluable in many discussions on the sources and properties of various stone materials and the practicalities of working in stone and bone.

Thanks are also due to Brian Muir who made available his manuscript "Key to Archaeological Sites in the Waiuku region". Joan Lawrence prepared additional artefact drawings. Caroline Phillips is responsible for maps and plans (Figs 1,2,222 and 227). The Alexander Turnbull Library provided the Ashworth sketch. Mary Best typed the manuscript, much of it twice.

Writing up the Brambley Collection is a project that took much longer than expected because of the intervention of some years of more pressing museum commitments. I hope I will be forgiven therefore by anyone whose contribution to knowledge of the Matatuahu site or the collection has been overlooked here because it all happened so long ago.

APPENDIX I

Brambley Collection material from outside the Manukau South Head area.

1. AR6911. Belfast, Christchurch. A Duff Type IB 'spade-shouldered' adze. Made of volcanic material possibly from Banks Peninsula. Extensive haft polish on back, 204 x 62 mm. It is presumably this item, incorrectly attributed to 'Manukau South Head', which Davidson (1984:96) gives as a rare example of the spade-shouldered adze occurring in the North Island.

2. AR6945. Tahanga quarry, Coromandel Peninsula (from R.G.W. Jolly). Basalt rough-out of high triangular cross-section. 180 x 75 mm.
3. AR6946. "Limestone downs" south of Waikato Heads (M. Brambley, pers.comm.). Some flakes have apparently been struck off a ventifact preparatory to its being made into an adze. The material is greywacke-sandstone. 175 x 83 mm.
4. AR7234. Rangatira Point, Taupo. Circular pumice rubbing/polishing stone. Ca. 50 mm diameter, 29 mm deep.

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